Development and Validation of a Conceptual Framework for IT Offshoring Engagement Success

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by

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Abstract

The study presented in this thesis investigates Offshore Information Technology Outsourcing (IT offshoring) relationships from clients' perspective. With more client companies outsourcing their IT operations offshore, issues associated with the establishment and management of IT offshoring relationships have become very important. With the growing volume of offshore outsourcing, the numbers of failures are also increasing. Therefore, both clients (service receivers) and suppliers (service providers) face increasing pressure to meet with the objectives of IT offshoring initiatives. Improving the quality of the relationship between client and supplier has frequently been suggested in the literature as probable solution area, however not much literature and empirical evidence is available in this respect.

The aim of the study is to make a theoretical and practical contribution by studying the interplay between the critical factors influencing the relationship intensity level of the exchange partners and suggest measures that can potentially increase the success rate in IT offshoring engagements.

The objectives of this study are:

1. To identify the relevant critical factors and explore its causes and effects (antecedents and consequences) on the relationship intensity significance level.
2. To develop an integrated conceptual framework combining the hypothetical relationship among these identified critical factors.
3. To empirically validate the conceptual framework.

To accomplish the first objective and building the theoretical platform for the second objective, three research questions are identified and answered through empirical study backed by literature evidence. The second objective is addressed through an integrative conceptual framework by analysing the related studies across other disciplines, gaps in the existing theories and models in the outsourcing literature. Coupled with literature gap analysis, the researcher adopted some of the relevant features from across various disciplines of management and social sciences that are relevant to this study. After that, the third objective, the research hypotheses are validated with empirical examination conducted in Europe.

Seven research hypotheses are developed based on literature analysis on the relationship of the key constructs in the conceptual framework. This study is explanatory and deductive in nature. It is underpinned mainly by a quantitative research design with structured questionnaire surveys conducted with stratified sampling of 136 client organisations in Europe. Individual client firm is the unit of analysis for this study. Data analysis was conducted using partial least squares (PLS) structural equation modelling techniques.

In this research, empirical support was found for most of the research hypotheses and conclusions of the study is derived. An investigation into trust as a concept is used to denote relationship intensity, as the central construct of the framework. The validated conceptual framework and tested hypothesis results are the main contributions of this study.

The results of this study will also be useful in terms of adopting the conceptual framework linked with hypotheses as a point of reference to begin with, in order to accomplish a healthy exchange relationship. However, a further deep dive and fine tuning the sub-units/composition characteristics of each critical factor may be needed for individual outsourcing initiative(s).

This study is particularly relevant to the client-supplier firms already engaged in a relationship but can also be useful to those clients who are planning to begin their journey in IT offshoring in the near future, as a preparatory platform.

Author's Declaration

I declare that this thesis is my unaided work. It is being submitted for the degree of Doctor of Philosophy at the University of Bedfordshire.

It has not been submitted before for any degree or examination in any other University.

Name of the candidate: Shantanu Banerjee

Signature:

Date: 11 May 2015

Conference paper presentations and publications

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Dedication

This research is dedicated to my parents and family without whose support and motivation this would not have been possible.

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Chapter 1: Introduction

1.1 Background

Often IT outsourcing is viewed as a valued business performance mechanism to enhance productivity, cut costs and boost competitiveness for organisations (Lacity and Willcocks, 2001; Tettelbach, 2000). Cullen and Willcocks (2003) and Alborz et al. (2003) ascertained that outsourcing improves accessibility to state-of-the-art technologies and skilled man power.

The origin of IT outsourcing is linked with the externalisation of functions of facility and operations management support services in the early 1960s, as revealed by Lee et al. (2003). However, the momentum started in 1989 with Kodak's strategy to outsource its IT (Nam et al., 1996; Kern and Willcocks, 2000). Consequently, the number of outsourcing engagements increased and outsourcing was considered as a vital business strategy for managing IT (Loh and Venkatraman, 1992). Here onwards IT outsourcing grew steadily (McCarthy, 2004) and eventually shifted outside the boundaries of the client's base location to low-cost economies. These events led to the commencement of offshore IT outsourcing, popularly known as **'IT offshoring'** (Edwards and Sridhar, 2005). Definition of this term is in section 1.4.

Originally, low- cost back office services were the primary reason for offshoring, but gradually during the late 1980s, firms outsourced substantial IT activities offshore (Gurbaxani, 1996; Oza et al., 2006). Besides software application development and maintenance activities, the magnitude of diversified IT services offshoring has steadily grown over the last decade and continue to grow further (Krishna et al. 2004). Accordingly, McCarthy (2004) claimed this trend is expected to accelerate as offshore IT services offerings are extending with significant value addition coupled with the establishment of offshore delivery facilities of large client companies globally. These centers have been created in countries such as India, China, Brazil

and Russia. Such tremendous growth in offshoring is supported by the developing countries evolving to undertake IT offshoring activities.

Offshoring attained an extraordinary momentum following 2001 and continues to accelerate due to economic recession (Khan et al., 2011). Offshore suppliers increasingly upgraded their capabilities and service quality with the diverse experience of implementing complex IT projects and this way rose up the value chain. In recent years there has been the application of state-of-the-art technology, world-class infrastructure and high-quality technical manpower to cater to clients' requirements (Khan et al., 2012).

India and China are the major players in the recent years in executing a substantial amount of outsourced contracts offshore. Some major offshore IT service providers in India are TCS (Tata Consultancy Services), HCL Technologies, Infosys and Wipro (Chou and Chou, 2011).

With such extraordinary progression in the volume of IT offshoring services, the proportion of failure is also escalating (Foote, 2004; Moe et al., 2014) which is becoming a major anxiety for the client firms engaged in offshoring.Therefore it elicits a need to explore this area of IT offshoring with the objective of building a framework that can contribute towards achieving a potentially improved success rate.

1.2 Motivation

The researcher has been involved as a hands-on practitioner in the IT offshoring field for more than 25 years in Europe, primarily working with the global service providers (supplier firms) of offshore IT services. The researcher has been working with some of the large organisations in the IT offshoring industry, providing services to clients and also sub-contracting some of the related services to other smaller/niche suppliers across the Asian sub-continent.

While managing business and professional aspects with clients and partner companies, the researcher traversed a significant learning journey through

managing complex IT offshoring engagements in Europe. During this phase, the researcher witnessed the evolvement of IT offshoring activities, both from supplier and client perspectives. Based on some of the real-life challenges experienced by the researcher over the past two decades, he was motivated to investigate various facets of IT offshoring and its overall implications.

This study aims at, deriving a suitable framework based on existing organization theories and research models concerning outsourcing from international literature coupled with its validity in the IT offshoring context. As the study progressed, it became evident that although there are frameworks existing for outsourcing practices in various disciplines, only a few studies have been undertaken which are related to the critical factors and its effective management in IT offshoring context (Moe et al., 2012; Kern and Willcocks, 2000; Khan et al., 2014; Lacity, 2002). This research gap indicated that there was substantial scope to contribute in the sphere of the dynamics of IT offshoring within the areas of relationship intensity management and thereby this topic of study was selected.

The research offered an opportunity to the researcher to gather advanced knowledge from the relevant literature to conceptualise what had been a personal experience during the researcher's 25 years of journey with the IT outsourcing industry. It also enlightened the researcher to understand the meaning of his role as an outsourcing professional and to focus on some of the most relevant aspects that would potentially contribute towards the success of IT offshoring engagements.

1.3 Importance

IT offshoring is one of the most commonly applied strategies for organisations to prosper and succeed in modern world`s fast paced changing market conditions, which includes globalisation, rapidly changing business models, speedy information processing and in-depth technological development. Therefore, it has become an established business strategy.

In a growing global economy, IT offshoring has become a popular strategy. Various large organisations have outsourced some or most of their IT functions. The advantages of outsourcing are factors like, enhanced productivity, reduced costs, improved customer satisfaction, bandwidth to focus on core areas and time-to-market. Although there are advantages, there exist risks and challenges with IT offshoring (Bahli and Rivard, 2003; Adeleye et al., 2004; Aubert et al., 1998; Earl, 1996).

The decision to outsource fluctuates with the business type and corporate structure. However, the cost factor dominates it all and particularly lower global cost benefits can not to be overlooked (Kakumanu and Portanova, 2006). As studied by Narayanan (2009), some strategic motives to offshore are cost effectiveness and better fund flow, flexible and accessible staffing combined with improved business performance. Technological competition has become intense making it absolutely difficult for companies to compete for lower prices. An outsourcing decision is not only to respond to fierce price competition but the fundamental objective is to gain and maintain competitive advantage.

It has been viewed by Jiang and Qureshi (2006) that companies deciding for outsourcing initially evaluate the cost factor. There are abundant opportunities to reduce the cost of operations through outsourcing and subsequently the available resources can be ploughed to maintain competitive benefits. However, most firms these days decide to outsource offshore leaving aside the cost factor and focus on core competencies, as per Kremic et al. (2006). Despite the potential risks of offshore outsourcing, in the form of security issues or cultural problems, firms still hope to benefit primarily from the lower cost advantage.

McLaughlin (2003) views that client organisations benefit significantly from IT offshoring. The suppliers in low cost economies charge almost 40% less than the local suppliers which is considerably lot lesser if compared with in-house operations. Currently, India and China get bulk of the R&D outsourcing. Also, offshore suppliers advanced both skills and service quality with the experience of IT offshoring over the past two decades, state-of-the-art technology and highly

educated manpower. Moreover, state of the art infrastructure should be present to satisfy client needs in modern technological era (Khan et al., 2012), which is also well supported by the current large suppliers in India and China.

Holmstrom et al. (2006) view that, in spite of the benefits, different challenges facing IT offshoring have been observed, in the past two decades. One of the prevalent issues in this area is managing complex communication and coordination problems due to the scenario of time and cultural separation (Holmstrom et al., 2006; Khan et al., 2011).

With the growing volume of offshore outsourcing, the numbers of failures are also increasing. Therefore, both clients (service receivers) and suppliers (service providers) face increasing pressure to meet with the objectives of IT offshoring initiatives.

1.4 Definitions of terms

There are several specific terminologies used in this study repeatedly, the literature definitions are enumerated in this section, for the purpose establishing the exact context and meanings.

Information Technology (IT): Throughout the thesis the researcher has chosen to use the term 'Information Technology' as the accurate title to describe the field of knowledge to which the research relates. The term Information Systems (IS) has been prevalent longer than the computer systems or Information Technology (IT). IS is a broad term referring to systems designed to generate, store, control, or disseminate information. IT falls under the IS umbrella contracts with combination of software, hardware, communication, infrastructure and related technologies involved in the systems landscape. In various earlier studies, IS was the term commonly used for all IT related activities. As per Thong and Yap (1995, p. 432), *"information technology was defined as computer software and hardware solutions that provide support to management, operations, and strategists in organizations"*.

IT Services: Rance and Hanna (2007) in ITIL V3 Glossary (2007; p. 26) defined as "*A Service provided to one or more Customers by IT Service Provider and is based on the use of Information Technology and supports the Customer's Business Processes . IT Service is made up of a combination of people, processes and technology and be defined in a Service Level Agreement"* .

IT outsourcing: Kern and Willcocks (2002, p.3) defined IT outsourcing as *"a process whereby an organization decides to contract or sell its assets, people and activities to a third party supplier.This third party supplier in exchange provides and manages these assets and services for an agreed fee over an agreed time span"*. It is defined by Loh and Venkatraman (1992, p. 9) as "*the significant contribution of external suppliers in the physical and human resources associated with the entire or specific component of the IT infrastructure in the user organisation"*.

IT offshoring: Edwards and Sridhar (2005, p. 21) defined IT offshoring as *"the client engaged in a contract with an unaffiliated IT services supplier located in an economical geography to perform delegated IT activities".* Rajkumar and Mani (2001, p. 64) defined IT offshoring as: *"When the supplier of software development is from another country than the firm that decides to outsource Information system"*.

IT nearshoring: is defined as outsourcing with an IT-supplier located near the client's country border (Schniederjans et al., 2005, p. 37) and in the same time zone (Rao, 2004, p. 16).

Client: Reizenstein (2004, p. 119) and Kendall (2007, p. 3) referred client as a service receiver, in the context of IT outsourcing and defined *"A client (also known as a customer, buyer) is the recipient of a good, service, product, or idea, obtained from a seller, supplier, or supplier for a monetary or other valuable consideration"*

Supplier: According to Rance and Hanna (2007) in (ITIL V3 Glossary, 2007; p. 49), *"a supplier or service provider is an organization that provides clients with consulting, legal, real estate, education, communications, storage, processing and many other services".* Even though,the term service provider can refer to organisational sub-

units, it is more frequently used to refer to third-party or outsourced suppliers, including Internet service providers (ISPs),application service providers (ASPs) telecommunications service providers (TSPs) and storage service providers (SSPs).

Contract: Wilmot et al. (2009, p. 34) defined contract as "*an agreement/arrangement having a lawful object entered into by two or more parties, each of whom mean to create legal obligations between them".* They further elaborate that the elements of a contract are "offer" and "acceptance" by "competent persons" with legal capacities who exchange "consideration" to create "mutuality of obligation". In common law legal systems, a contract is informally known as an agreement in some jurisdictions.

Relationship intensity: Relationship is a social structure made up of a set of social actors (such as individuals or organizations) and a set of the dyadic ties between these actors. "*The relationship intensity perspective provides a set of methods for analyzing the structure of whole social entities as well as a variety of theories explaining the patterns of relational attributes observed in these structures. The study of these structures uses social network analysis to identify local and global patterns, locate influential attributes to develop relationship and examine network dynamics"* (adapted from Doney and Cannon, 1997, p. 36).

IT outsourcing relationship: Goles and Chin (2005, p. 49) defined it as "*an on-going engagement between an outsourcing client and supplier arising from a contractual agreement to deliver one or multiple IT services or processes, thereby the benefits accomplished by the engaged parties are mutual and dependent on each other".*

Trust: Mayer et al. (1995, p. 709) defined it as *"willingness of a party (trustor) to be vulnerable to the actions of the other party (trustee) founded on the confidence the other party may perform an action that is extremely critical to the trustor, irrespective of the capacity to governor or monitor the other party".* Also, Dyer and Chu (2011, p. 259) defined trust, from the buyer-seller perspective, as *"a party's confidence that the other involved party in the transaction relationship will never exploit its vulnerability".* Another view of trust was stated by Doney and Cannon (1997, p. 36), as *"the perceived credibility and benevolence of a target of trust".*

Risk: According to Levin and Schneider (1997, p. 38), it is *"the occurrence of events characterising a material threat to the organization's fortune."* As per this definition, the risk is understood as manifestation of undesirable events. Also, defined by Lacity and Willcocks (1998, p. 263) as *"the possibility of loss as a result of uncertainty".*

Uncertainty as risk: Uncertainty risk is defined as *"are those elements in engagements that encompass unexpected or undesirable consequences like abrupt behavioural changes in technology, market, legal and human resources aspects*" (Tafti, 2005, p. 550).

IT outsourcing success: Lee and Kim (2003, p. 268) defined IT outsourcing success as "*the level of health between the service receiver requirements and outsourcing outcomes delivered by the service provider".* The above researchers also supported the understanding of Lacity and Willcocks (2001, p. 180) which says *"outsourcing is viewed successful when the outcome of IT Outsourcing decisions meet expectations".*

1.5 Context – IT offshoring

Software activities and IT outsourcing in a combined manner has consistently increased over time (Krishna et al., 2004; Hendry, 1995). Clients have started outsourcing other IT- enabled operational activities besides their IT development/maintenance/testing, outside their country and this has also fallen under the umbrella of "IT offshoring". This term has been developed as the activities/operations outsourced to a country is in a different economic and time zone.

Major IT offshoring client companies are located in the USA, Europe, Australia and Japan while the supplier companies are based in China, India, Ireland, Poland, Russia, the Philippines and Vietnam. India is a preferred destination for IT offshoring as it has been able to evolve with the changing needs and demands of the industry. The National Association of Software and Services Companies (NASSCOM), an association of India's IT service companies reported the following:

"India's share of the global IT offshoring market rose from 41% in 2009 to 55% in 2014" (NASSCOM, 2014).

Cusumano et al. (2003) studied global IT offshoring status and trends through empirical analysis of supplier firms internationally. They elaborated the reasons for the success of Indian firms in IT offshoring. Most Indian suppliers mandated the use of highly matured processes and quality assurance best practices by implementing international standards like ISO, CMM and PMI internally. This has not only helped them better manage project engagements but also improved performance through establishing transparency with clients in terms of tracking of performance, risk, resource allocation, planning, budgeting, forecasting, communication and coordination. To be able to proactively respond to the increased and changing client demands these kinds of investments and initiatives proved worthwhile. These days Indian IT offshore supplier delivery systems and environment is made to look like a mirror image of client IT enviornment to minimise the risk of failure. Currently, India is one of the top IT offshore supplier countries (besides China and Philippines) with a CAGR of 30% over the past five years (NASSCOM, 2014).

Offshoring provides an opportunity for a geographically dispersed and culturally diverse workforce to collaborate in an engagement seamlessly. Its therefore realised that effective management of relationship is of paramount importance towards the overall success of the engagement. While planned activities and operations can be well managed using the process management tools but there are other elements of risks that may be unpredictable/uncertain because of involvement of human resources in the transactions. The speciality of IT services is grounded on skills and human resources needing delicate mechanisms of understanding to be able to leverage the maximum potential to benefit.

1.6 Concerns in IT offshoring

As per literature the substantial failures in IT offshore engagements happening may not be due to lack of skills, processes and infrastructure (Moe et al., 2014) but mostly these are closely associated with human factors. Nowadays, companies

offshoring their IT functions thereby surfacing challenges in relationship management issues that particularly get aggravated due to distance and diverse culture leaving clients to rely on sophisticated technical tools to monitor and design tight contracts to follow (Reifer, 2004), is quite evident.

Firmbuilder (2001) noted the above reasons are contributing to conduct focussed research on IT offshoring failed engagements to figure out common reasons behind them, backing the development of appropriate strategies to address the challenges (Alborz et al., 2003). Moe et al. (2014) further support the understanding that offshoring failure or success can be attributed to relationship management issues among the stakeholders in the engagement. However, research has not produced standard models and frameworks in the area of IT offshoring relationship management so far probably because every engagement in services or consulting is unique by nature and difficult to generalise; whereas industry standard process, risk and project management models can be standardised in case of other outsourcing engagements.

Barthélemy (2003) suggested on recognising and managing both the soft and hard sides of IT outsourcing. While the hard side relates to the development and enforcement of a tight legal contract, the soft side relates to the development of trust-based relationships. This upholds the fact that managing the soft side may have positive influence on IT outsourcing success. These notable factors are vital for the research presented in this study.

According to Foote (2004), a number of companies engaging in offshoring revealed to have undergone overall decrease in their expected cost effectiveness realisation. Lee et al. (2004) emphasise that the legal contractual relationship reflects on the totality of the client-supplier relationship. It is an important requisite that the contract should fall in place as per the requirements for delivery as well as the execution processes involved in the engagement. Analysing a number of unsuccessful offshoring contracts, Moe et al. (2014) related lack of success to a transparent relationship between client and supplier rather than faulty contracts and financial discrepancies. Other difficult circumstances can be wage escalations

for employees working offshore and increasing competition between suppliers for clients and clients for suppliers (Rajkumar and Mani, 2001) affecting the economic viability of engagements. Rapid improvements in technology is necessitating vast agenda of workload on offshored engagements with more demand arising from clients in terms of meeting with not only time-to-market, security and strategic goals but also real-time information availability on their engagements. King (2005) noted that client's need for intricate and complicated work to be done in a strategic manner is of more importance than just addressing cost savings initiatives.

A survey conducted by KPMG in 2015 highlighted that 70% of the companies showed poor results in their offshoring contract arrangements. McKinsey & Company also state that most outsourcing deals are partially able to achieve their initially estimated results (Craig and Willmott, 2005). Additionally, Gartner (2014) established that nearly 80% of the outsourcing contracts need to be re-negotiated or re-structured. These adverse results underlying outsourcing contracts makes it clear that the issue is much more than just cost arbitrage. The difficulty lies in the management of offshoring contracts and client-supplier relationships; needing a substantial change in the way these are handled and executed in most cases. Lee et al. (2004) feel that following a rigid contract is a mechanism to establish power and control and could be the possible resolutions for client companies to decrease their failure risks. These are some of the stringent yet ambiguous issues connected with IT offshoring practices.

1.7 An overview of the gap in research

A detailed analysis of the gap in research is discussed in the next chapter (section 2.6). In this section, the essential gap in literature is discussed briefly as an overview and purpose of the study.

Prior studies on the offshoring client-supplier relationship has been primarily literature reviews, case studies and opinion polls. Dibbern et al. (2004) state that although several prior studies highlight on the importance of relationship management, there is a definite lack of positivist research approach examining this

aspect. Also, there are very limited research evidences on the relationship management domain viewed through the lens of social exchange theory, in the general outsourcing literature. Picking up on this gap, the researcher intends to identify, analyse and validate such factors that may potentially result in favourable outcomes enabling overall engagement success.

Although IT offshoring is an established business practice, the success of such engagements cannot be always predicted. Increasingly complicated nature of activities/tasks being offshored, together with the diverse execution models of offshoring engagements, may require a fresh approach to examine the client-supplier relationship implications on the overall outsourcing success.

1.8 Aims and objectives

This thesis emphasises on the identified knowledge gap, which includes the importance of the relationship intensity for achieving an overall success in outsourcing in the context of offshoring of IT services. This study, therefore, examines that the client–supplier relationship in offshore IT outsourcing is most critical area to manage effectively for engagement success. As such the impact of the relationship on the overall IT offshoring can make the difference between highly successful, moderately successful and complete failure (Moe et al., 2014). Contrastingly to prior research, which focussed on the overall outsourcing domain, this study aims at relationship management aspects in the context of IT offshoring sub domain of outsourcing.

The research gap in the literature reflects there is hardly any research conducted in the space of relational intensity fact finding towards the betterment of success rate in the context of IT offshoring engagements. However, in other disciplines there are evidences available for similar studies. These disciplines are marketing management (Doney and Cannon, 1997), organisation behaviour (Kramer and Tyler, 1996), business management (Blois, 1999), social science (Gambetta, 2000) and supply chain management (Tian et al., 2008; Dyer and Chu, 2011). Recent empirical studies in operations management area also provide an understanding into

managing a variety of such relationships (Moe et al., 2014; Han and Mithas, 2013; Niazi et al., 2013 and Shittu et al., 2012).

Therefore the researcher made an attempt to develop an understanding of relationship issues, dimensions and characteristics from a set of studies that can be related to IT offshoring context. The learning and suggestions from these studies have been analysed, classified and rationalised to adapt some of the possible features of relationship intensity measurement and management.

Based on the above literature analysis, the researcher found the need to gain an in-depth understanding of different factors that play an important role in establishing a conceptual framework for IT offshoring engagement success. This study identifies key factors via systematic literature review that are necessary for establishing a strong platform in IT offshoring relationship development. Understanding these factors may assist IT offshoring companies in addressing issues relating to establishing a strong relational intensity. Consequently, it also aids to ensure the successful outcome of IT offshoring engagements with long-lasting relationship between the clients and suppliers (Ali-Babar et al., 2007; Sabherwal, 1999).

Typical issues in client-supplier relationships are well documented in the literature (Palvia, 1995; Tian et al., 2008; Parkhe, 1998b; Krishna et al., 2004). These problems are a major cause of complex challenges being faced in the engagement that at times make the clients re-think on the IT offshoring strategy itself and some clients reverted back to the classical model of in-house or insourcing services, as reported in the literature (Foote, 2004). The main issue with changing strategy is to do with the investments made by client firms in terms of time, resources and capital when engaging with an IT offshore supplier. While the supplier goes through an adaptation to cater to the client demands, the clients also go through similar transformations to suit the needs of the engagement by adhering to the best practices of the supplier. Hence, in case of failures, the investments (tangible and intangible) made by both parties are completely sunk. Further, it may call for additional investments to revert back to the old system of in-sourcing.

There have been an attempt to understand some of these challenges in the operations management of IT offshoring engagements in the literature (Niazi et al., 2013; Lonsdale and Cox, 2000; Kern and Willcocks, 2000) and these studies clearly recognised the need for more focussed research in the relationship management attributes of IT offshoring. This study therefore is an attempt to initiate a baseline platform by which the relationship management development factors can be appreciated and recognised by the clients in order to make informed decisions relating to the identified critical factors enabling success.

The aim of this study:

To make a theoretical and practical contribution by studying the interplay between the critical factors influencing the relationship intensity level of the exchange partners and suggest measures that can potentially increase the success rate in IT offshoring engagements.

The objectives of this study to achieve the aim:

1. To identify the relevant critical factors and explore its causes and effects (antecedents and consequences) on the relationship intensity significance level.
2. To develop an integrated conceptual framework combining the hypothetical relationship among these identified critical factors.
3. To empirically validate the conceptual framework.

To accomplish the first objective and building the theoretical platform for the second objective, three research questions are identified and answered with empirical study backed by literature evidence. The second objective is addressed through an integrative conceptual framework by analysing the related studies across other disciplines, gaps in the existing frameworks/models found in the literature and the third objective is accomplished by empirical validation of the framework.

1.9 Scope

Empirical investigation in this study focusses on the IT offshoring client companies based in Europe, as the unit of analysis. Therefore, the study is conducted from the perspective of clients as literature evidence state that the importance of engagement success (and related management challenges) is more critical from this perspective. The supplier side of relationship management understanding is limited to timely payments and long-standing contracts (Oza et al., 2006). The other aspect is governed by the fact that if an engagement fails, clients are at more loss than the suppliers. However, results of the study is not expected to be mutually exclusive and may be applicable to both client firms (in Europe) as well as their supplier firms, in the sense that identified critical factors will be applicable to both partners equally to realise success through strengthening their relationship.

Being located in the UK, the researcher had the opportunity to survey some of the major IT offshoring clients based in Europe. Hence the empirical study is based on European client firms participating in IT offshoring. The researcher used various databases of such clients available from secondary sources and industry reports (Datamonitor, The Blackbook of outsourcing and National Association of Outsourcing). The researcher had the appropriate background to obtain empirical data from the client companies in Europe.

1.10 Research design

Overall, the research design is categorised into three steps. The first step is, to find a gap in the literature for the study and formulates the research questions through systematic literature review (Boland et al., 2013). The next step is design and development of a conceptual framework combined with research hypotheses based on the established organization theories and construct relationships. A thorough and systematic literature review, analysis, preliminary assessment of the framework by practitioners was undertaken in order to establish the context of the relationships between the constructs. The researcher believed that development of a robust framework necessitates not only critical analysis of the literature but also

pragmatic viewpoints of the practitioners, who are targeted to be the potential users of the framework.

In order to design the data collection instrument, a series of review steps are taken as research methodology, based on past studies in outsourcing domain. Based on the nature of the study, existing literature and research gap, a questionnaire survey method for data collection is used, followed by data analysis using path modelling technique. These are discussed in detail in the later part of the thesis and the above is just a representative summary of the research design.

1.11 Conceptual framework– the main contribution of the study

Based on systematic literature review (Boland et al., 2013) three questions are formulated for this study. Also the researcher found some indicative answers from critical analysis of the existing literature. This research used existing literature to develop a conceptual framework backed by research hypotheses and thereafter validated it with empirical examination.

Relationship intensity with cultivation of 'trust' is used as a concept in this study and has been adapted from research in other disciplines that recognised it as the vital factor ensuring success of such engagements (Dwyer et al., 1987; Doney and Cannon, 1997; Dyer and Chu, 2011; Endorf, 2004; Kern and Willcocks, 2000; Currie and Willcocks, 1998; Tian et al., 2008; Lee and Choi, 2011; Fatma and Mahjoub, 2013). Therefore, by adapting the importance of trust from other disciplines the researcher attempts to develop and validate a framework that can applicable in IT offshoring.

The above approach generates the need for understanding the determinants/antecedents of trust and consequences of trust that may influence the overall success (goal) of the IT offshoring engagement.

The conceptual framework developed in this study (chapter 3) is a structure consisting of critical factors that are potentially relevant in order to achieve trust

and success in an IT offshoring engagement. The framework is further validated with empirical examination with 136 client firms in Europe.

The practical application of the validated framework (with supported hypotheses) can potentially be realised through its adoption in the IT offshoring sourcing practice as a point of reference, in order to accomplish a healthy exchange relationship.

Results of this research can utilized by both IT supplier companies and their European clients. However, it does not limit the scope of the results. This study is particularly relevant to the client-supplier firms already engaged in a relationship but can also be useful to those who are planning to begin their journey in IT offshoring in the near future, as a preparatory and planning platform.

1.12 Chapter summary and Organisation of the thesis

This chapter (1) has introduced the research background, motivation, importance, context, concerns, aim/objectives and scope followed by an introduction to the main contribution (conceptual framework).

The thesis comprises of seven chapters in total.

Chapter 2 presents a detailed and systematic literature review based on the objectives of the study and developing an understanding of previous studies in outsourcing areas. The chapter focusses on three elements: first, the perspectives on IT outsourcing, its benefits and risks, an overview of IT offshoring and detailed study on various theories relating to outsourcing. Secondly, it outlines the analysis of the existing gaps in past studies on IT outsourcing and understanding from across other disciplines on the importance of relationship management aspects. Thirdly, finding the critical factors associated with relationship management development and success of outsourcing engagements. Based on systematic literature review appropriate research questions have been formulated to carry out further examination.

Chapter 3 focusses on the overall concept, design and development of the conceptual framework that emerged from the literature review and research gap. This knowledge is synthesised, indicating the logic and flow of relations between the different constructs identified as critical factors. Thereby, it enables to formulate the potential relationship between the critical factors through hypothesis formulation of the study based on the research questions.

Chapter 4 presents a detailed description on the research philosophy, approach and methods used in this study. It also enumerates steps used in design and development of an appropriate instrument for data collection, the considerations for using a particular data collection method and theory support for choosing any such method. This is followed by preliminary discussion on the data analysis techniques and suitability of a particular technique to be used for this study.

Chapter 5 outlines various data analysis techniques and the reasoning for selecting an appropriate one for this study. It illustrated the details on data descriptions and step wise method to progress towards the validation analysis. Finally the results are presented in a structured way through the statistical analysis results, to depict whether the hypothesis was supported or not.

Chapter 6 provides a critical discussion and synthesis of the analysis results. In particular the hypothesis support or not is discussed in conjunction with previous research results in the domain of outsourcing in other disciplines. Also, the appropriate theory support or non-support view was checked and discussed. Overall validated view of the conceptual framework is also summarised.

Chapter 7 outlines the overall conclusions of the study, including brief summary of outcomes from data analysis thereby concluding the main contributions of the study. The contribution of the study is enumerated in two sections as theoretical and practical respectively. This is followed by outlining the limitations and future research scope of the study. Finally, the chapter ends with researcher's personal learning and experience gained while conducting this study over the past 3 years.

Chapter 2: Literature Review

2.1 Introduction

This outlines and elaborates on the objectives of the research presented in the introduction chapter, discussing on the backdrop, context and relevance of existing literature, in order to identify the components for the conceptual framework.

IT offshoring have been experiencing a phenomenal growth in the past decade and will probably continue to grow in the future as well. A visible reason enumerating this trend is the apparent cost advantages achieved from offshoring activities and functions. Offshoring choice and practice is not exclusive to IT functions only. Different parts of operations related to manufacturing functions, have also been outsourced to India, China, Philippines, Vietnam, Poland and various other countries in the last few years.

While in manufacturing and design function insourcing is more prevalent, a major difference between insourcing and outsourcing is the cost differential. While insourcing practice is prevalent significantly in manufacturing industries as against IT, it is usually more expensive to a company because new processes need to be built to initiate the new product development for the company. Outsourcing utilizes an external company that already has a tested workflow developed and where the employees are familiar with such processes.

While outsourcing IT functions has been extensively practiced for more than three decades, the unprecedented growth in offshoring of IT services is relatively recent. The rapid development in information and communication technologies enhanced demand for IT professionals across the USA and Western Europe which triggered offshoring of the IT functions as an attractive business proposition.

Furthermore, the access to high quality technology skills and number of such resources in other countries like China and India, made the offshoring of IT more

practical. Certainly, IT offshoring has implications on overall productivity, operations and management. Project management, for instance, is influenced by this kind of trend in a number of ways, relating to much needed skill availability, improved scheduling, communication, quality assurance, risk and performance. However, while capitalising on these opportunities, IT outsourcing practitioners are expected to experience the challenges presented by offshoring of the IT services. Therefore, the researcher begins this chapter with the descriptions on the legacy of outsourcing and the motivations behind the offshoring of IT services.

Overall, the coverage of this chapter includes the following sub topics. First, the chapter presents a brief history of IT outsourcing followed by an overview of the IT offshoring domain. After that, it goes on to discuss various motivations (benefits) and risks/challenges associated with IT offshoring, based on the earlier studies of researchers and industry data. Accordingly it is supported by a systematic review of literature on the existing theories and models in the sphere of outsourcing studies, which extensively are adopted in practice.

This chapter presents a detailed view on IT outsourcing, IT offshoring, theories, models, research gaps followed by research questions by carrying out a systematic literature review (Boland et al., 2013), through various sections. Here nine steps have been followed as given below:

Step 1: Broad literature study on the history, status, overall landscape and available models within the broad domain outsourcing including offshore IT outsourcing.

Step 2: Critical analysis of existing studies in outsourcing and further scoping searches for identifying research gap and questions.

Step 3: Narrowing on the literature search with inclusion and exclusion criteria based on the study objectives.

Step 4: Screening paper titles and abstracts and selecting the relevant literature.

Step 5: Selecting full-text papers.

Step 6: Assessment of quality and content of the papers.

Step 7: Extraction of relevant information.

Step 8: Analysis and synthesis of information extracted.

Step 9: Drawing up and writing conclusions (on gaps, questions etc.).

Therefore the purpose of this chapter is to gain an insight into the literature gaps and to focus on the specific contribution this research will make to the existing knowledge. The literature is also critically reviewed to analyse the current understanding of offshoring landscape, relationship management aspect and the global success status of IT offshoring engagements. Thus, this chapter aims to capture and synthesise the arguments and ideas of the existing research in the IT offshoring area thereby enumerating the overall status of this domain by establishing the need for this research in the context of contribution.

This chapter also includes literature analysis and gaps existing in various inter-disciplinary researches including IT outsourcing/offshoring. Based on the findings, research questions have been identified addressing the research gap that may potentially help build knowledge through the contribution of this study.

2.2 Legacy of IT outsourcing

Organizations have been involved outsourcing IT services and functions since early 1950s (Klepper and Jones, 1998; Due, 1992; Costa, 2001). However, a substantial growth in outsourcing began when Kodak outsourced its IT functions in a planned way during 1989. During the early days, outsourcing initiatives were primarily driven by operational cost savings (DiRomualdo and Gurbaxani, 1998). However, sometime later the reasons deciding for outsourcing started moving towards the improvement of strategic business performance (DiRomualdo and Gurbaxani, 1998; Yang and Huang, 2000; Currie and Seltsikas, 2001).

An array of IT functions are now effectively offshored including development of applications, telecommunication operations, systems integration and complex data processing (Grover et al., 1996). In the early 1950s, IT outsourcing majorly happened domestically and the relationship management was primarily done

relying on legal contracts only that were managed in an arms-length manner (Kern and Willcocks, 2000).

Beneficial practices from the early IT offshoring engagements stimulated other companies to jump onto the "band-wagon" (Lacity and Hirschheim, 1993a), propagated a new era in outsourcing domain – the prominence of the Bandwagon. During that time, the influential article "The core competence of the companies" by Prahalad and Hamel (1990) announced a new thought leadership attitude to change strategic business unit (SBU) approach. A revolutionary approach like this made managers to reconsider their competitive edge.

Consequently, corporations started to outsource activities that were not in their domain of core competence (Han and Mithas, 2013). Therefore, merely attaining cost effectiveness was not any longer the only objective of outsourcing, as corporations began to pursue foreign skills and capabilities to enhance value to execute complex and strategically critical organisational processes. This led to the emergence and growth of "strategic outsourcing" (Quinn and Hilmer, 1994; Alexander and Young, 1996) a specialized business strategy. Along with classical outsourcing, even strategic activities started getting offshored and the arm's length style of management started posing issues in partner relationship. As a result, firms started looking at using project management and other control practices to effectively manage the performance objectives (Han and Mithas, 2013).

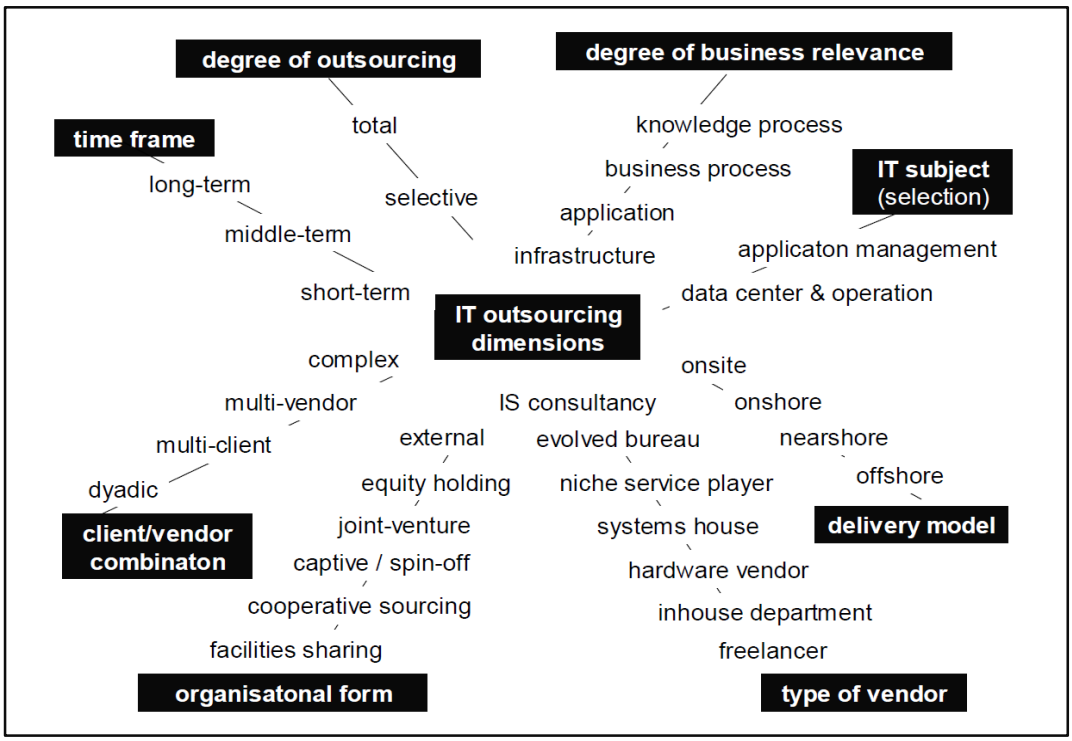
2.2.1 Types of IT outsourcing

To maximise the achievement of benefits from IT outsourcing various client firms expanded the boundaries and horizon to increase competitive advantages. The business philosophy of "focus on core competence and outsource the rest" as suggested by Porter (1996; p. 61), gained acceptability in various other industries as well. Although the critical resource and knowledge base remained primarily deployed in the clients' region; but at the beginning of 1990s businesses started to assess the availability of global resource pools as possible options.

Towards the end the century, the acceptability of this practice led to the scenario where outsourcing was not any more considered as competitive strategy – but a reality rather than an exceptional practice (Lawton and Michaels, 2001).

Various types of IT outsourcing arrangements can be distinguished from one another. Dibbern et al. (2004) for example describes four fundamental parameters characterising the type of IT outsourcing arrangement: degree, mode, ownership and time frame. Kronawitter et al. (2009) added the components: time frame of collaboration, subject of IT outsourcing and delivery model to the context of IT near and offshoring. Each of these authors tried to systemise the various variants of IT outsourcing models. Figure 2.1 summarises the described variants, which need to be considered in the decision of how to organise IT outsourcing.

Figure 2.1: The IT outsourcing dimensions: according to Dibbern et al. (2004); Cullen and Willcocks (2003).



Source: Kronawitter et al. (2009, p. 112)

Global availability of external suppliers coupled with reduced interaction costs and enhanced IT and communications services paved way towards the alternatives available to reorganize operations of business units (Doig et al., 2001).

The availability of global technical skill pools to various client firms, regardless of their business sector, revenue turnover, geographical location or the overall size became a matter of reality. Such progresses headed the status of current stage in IT outsourcing leading to emergence of the Barrierless Organisations. The current era hints a growing tendency towards organisational dynamics, by which the boundaries have become insignificant and slowly diminishing. This gave rise to a new jargon called “transformational outsourcing”, in the current century, aiming at the creation of innovative and radical commercial models which can create competitive advantage helping redefine the rules of the game for the industry (Engardio, 2006). The essence within “transformational outsourcing” is reflecting on changing the paradigm thereby targeting at new adaptive enterprise model (Khan and Niazi, 2012; Linder, 2004; Mazzawi, 2002; Linder et al., 2002). On the other hand, “traditional outsourcing” emphasises on sweating existing resources harder. Whereas “strategic outsourcing” targets at procuring competences the firm is deficient with.

Combining the above approaches, the competitive strength is to develop flexibility which can be realised with closely controlled operational emphasis and exploiting/leveraging available capabilities external to the core areas of business (Quinn, 1999). The added challenge would be creating a flexible organisation, through focussing on selected strategic domains producing competences and letting the globally dispersed team of experts provide other added value. The above is summarised in Table 2.1.

Table 2.1: The evolution of outsourcing

Attributes	Big bang	Bandwagon	Barrierless Organisations
Time period	1980s to early 1990s	Early 1990s to early 2000	From early 2000 onwards
Prime motives	Cut costs	Cut costs, capability enhancement, process improvement	Organisational transformation
Buzzword	Outsourcing	Strategic outsourcing	Transformational outsourcing
Outsourcing location	Domestic	International	Global
Management of the outsourcing relations	Arms-length, transactions	Strategic alliances	Collaborative development
Organisation	Efficient organisation	Focused organisation	Virtual organisation
Core organisational competences	Management of key strategic business units (SBUs)	Key strategic competences (core competences)	Dynamic competences and network competences
Strategic rationalisation	Profit maximising	Strategic and competitive edge	Survival
Outsourcing objects	Structured and well defined turnkey manufacturing processes	Strategically important organisational process	Projects highly knowledge-intensive and creative in nature
Main theories	Transaction cost theory	Resource/competence-based view	Organisational theories

Source: Hätönen and Eriksson (2009, p. 145)

In addition to globally dispersed competency development, outsourcing demands an additional theory to elucidate the economic accomplishments of organisations, not only in a foreign location but also externally domestic to the clients' region. As per this view, Bulajic and Domazet (2012) state that outsourcing can be carried out in two ways:

- Inside of the country borders
- Outside of the country borders.

Outsourcing inside the country borders is known as on-shoring. It is defined in the literature; the client's contracting of IT functions/services with a local IT supplier (Gonzales et al., 2006; Kliem, 2004; Erber and Sayed-Ahmed, 2005).

Outsourcing outside of country's borders can also be categorised as follows (Bulajic and Domazet, 2012)

- Near-shore outsourcing
- Offshore outsourcing.

Near-shoring or near-shore outsourcing is outsourcing to nearby or neighbouring countries. It is defined in the literature as:

- The client's contracting arrangements of IT undertakings with an IT-supplier located near the client's country (Gonzales et al., 2006; Schniederjans et al., 2005) and
- The client's contracting arrangements of IT undertakings with an IT-supplier located within the time zone (Rao, 2004).

Different advantages of this kind of outsourcing are found for economic, linguistic, political or historical reasons (Ramsay, 2005), as well as the gains provided by improved and closer control thereby reducing transportortation expenses in the situation that products and raw materials needs to be transported in both directions. In the USA, near-shoring is considered outsourcing to Canada, Mexico, or Central American countries. In Europe, near-shoring countries are the Czech Republic, Slovakia, Ukraine, Hungary, Poland, Belarus, Russia and the Baltic countries. However, outsourcing to India and China is considered offshoring.

Hence, IT offshoring encompasses - total offshoring, global sourcing, offshore insourcing and this broadly includes near-shoring as well (Cheon et al., 1995; Davey and Allgood, 2002; Kliem, 2004; Prikladnicki et al., 2003; Carmel and Tjia, 2005; Rajkumar and Mani, 2001).

This study focuses particularly on IT offshoring for several reasons. While IT offshoring has some definite merits it also poses some potential problems due to the nature of its execution (Sambamurthy et al., 2003; King and Malhotra, 2000; Lacity et al., 1994). In this aspect, the lack of appropriate management capabilities and vision may acutely limit an organisation's ability to achieve success.

Additionally, a choice for outsourcing one set of non-core activities may inadvertently result into to the firm's outsourcing of a larger spectrum of closely-associated capabilities and activities or decay of some of the existing competencies, more so while the IT activities are jointly shared among a dispersed geographies (Lei and Hitt, 1995). Offshoring inclines to align towards this category of slow decay core competency of client firms because it infuses, affects and shapes-up most organisational processes in a certain manner (Willcocks et al., 1996; Khalfan and Alshawa, 2003; Kern and Willcocks, 2002). All these aspects are discussed in the following sections.

2.3 An overview of IT offshoring

Offshoring in its initial years was mainly used for data processing work. But lately, in the 1990s, client firms have been outsourcing much of their software services activities offshore. Services like application design, development, testing and maintenance have been thus outsourced offshore.

A study conducted by Gurbaxani (1996) on 50 IT outsourcing contracts recommends:

> "The strategies and options managers can persist are becoming more diverse and varied as the nature of outsourcing is changing in significant ways" (p. 45).

Some studies (Mclaughin, 2003; Chordas, 2003; Athreye, 2005; Heeks, 1996) are purely based on the Indian IT outsourcing industry, but substantial amount of research on offshoring is absent, as evident in literature (Currie, 2000; Khan et al., 2003). Although India is the leading offshore IT services provisioning country and still is the most popular offshoring destination, it has not received noteworthy research scrutiny (Khan et al., 2003).

IT offshoring is further largely classified into the following categories (Bulajic and Domazet, 2012):

- Information Technology Outsourcing (ITO): of IT systems, infrastructure or internet/web and IT security related work.
- Business Process Outsourcing (BPO): of administrative tasks, such as payroll or accounting, and front office tasks like managing call centres, customers support, technical support, DTP, multimedia, and web design and development.
- Offshore Software Development (Software and R&D): of software development, maintenance, testing, migration, porting and other relevant tasks to another country. India is the current leader for this category.
- Knowledge Process Outsourcing (KPO): of knowledge-related work that necessitates superior degree of knowledge and expertise, like data analytics, research and development, or business operation support and management.
- Legal Process Outsourcing (LPO): of legal processes and focuses on procuring support services associated with legal domain from an external law firm or legal processing services using IT as the backbone of provisioning such services.
- Recruitment Process Outsourcing (RPO): of derrivative of business process outsourcing (BPO) characterised by a client firm transferring some or the whole of its recruitment processes to an external supplier of services. A RPO supplier can bring its own or retain the client's process, technology, manpower, and reporting methods.

Besides this, one has to be cautious that there are certain preconditions for IT offshoring engagements to be successful. A collection of these preconditions is listed below (Ramsay, 2005):

- International standard ICT and conventional infrastructure
- Transport and logistics
- World-wide financial institutions
- Trade agreements with other countries
- Political stability in the country.

Apart from this, the development of communication technologies, particularly Internet and VoIP communication, has decreased communication costs substantially.

Duggal and Simkonis (2007) state, all the potential requirements for offshoring are data entry and system maintenance besides the mostly used ones like software application development, maintenance, testing, bug fixes and call centres. Duggal and Simkonis further elaborate, if project management methodologies and infrastructure improve, other types of work can also be carried out offshore. Common areas of outsourcing functions across industries include: information technology (40%), human resources, customer contact service, marketing, sales, finance, and transportation (30%), plant and infrastructure (15%) and supply chain and logistics (15%), as studied by Elmuti et al. (1998). Some of these outsourcing types fall under BPO. While ITO started in 1960s and acquired popularity and growth in the 70s and 80s (Hirschheim and Dibbern, 2002), the others above are quite new types of outsourcing arrangements. It is thus not surprising that most of the research until now conducted in the context of ITO.

2.3.1 Growth of IT offshoring

Growth in offshoring increased as Asian region emerged to take up software outsourcing jobs in countries like India, China, Ireland and Russia as they developed specialization in provisioning offshore IT services. The above mentioned countries engage in IT outsourcing work from client companies in the Western countries (e.g. USA and UK). India's contribution to the total IT offshore services is substantially bigger than any country in Asia (NASSCOM, 2014). It is forecasted (Minevich and Richter, 2005) China will emerge as a competitor to India in offshoring and might match up with India's share of offshore IT business by 2015-16.

The value chain for back-office business services has evolved dramatically over the last two decades. Continued advances in technologies and communications infrastructure are allowing companies to gain access to previously inaccessible pools of talent available across the globe. In the same way, offshoring has become revolutionary for many countries providing them with a mechanism to step into the

global economy as distance ceases to be all-important (A.T. Kearney, 2014). The 2014 A.T. Kearney GSLI (Global Service Location Index) enlightens this set of complicated and altering choices by ranking more than 50 potential destinations (Appendix 5). Asia persists to dominate, with six entries from the first 10. Latin America is also performing well as it offers the second-deepest pool of qualified labour after Asia (A.T. Kearney, 2014).

The spectacular progress in the number and worth of IT outsourcing contracts signed in Europe in January 2014 continued through to the end of the year. According to Information Services Group (ISG, 2014), offshore IT outsourcing grew at a fastest rate since 2010 because of recession and competition. Also, the last six months of 2014 had seen the maximum spend on IT offshoring since the 2008 recession.

As per Forester (2014) forecasts 3.4 million white collar jobs in the USA will be outsourced offshore by end of 2015, while 1.2 million IT and support services jobs will be outsourced from the 16 European countries over this time frame (OECD Employment outlook, Forester, 2014, p. 33).

The total amount of spend by EMEA region on offshoring was €17bn in the year 2014, a 32% rise as compared to the previous year (Computer Weekly/ISG 2014). Almost one third of all global offshoring volume was allocated in the Europe, Middle East and Africa (EMEA) region. Businesses in the UK, which is one of the largest markets in the European region, spent €1.4bn on IT offshoring (ISG, 2014; Daxx, 2014).

Market reports depict the world technology spend pattern has become slow this year (2015), as compared to the big boost experienced in the past two years (Gartner, 2015). Although quick growth of the IT market is not expected any time soon, the recent forecast by Forrester (2014) predicts stable, relatively slow growth in the future, as against 2014.

According to another forecast (Daxx, 2014) rising economy in the USA and other regions of the world is expected to have a positive effect on the tech market due to

increased spend on mobile computing, cloud, social media and business analytics services. However due to the continued economic uncertainty and cautious IT purchasing practices, progressive growth of the market may not exceed 7%.

IT services outsourcing grew at the rate of 5.5% in the year 2014 (Daxx, 2014), revealing better performance than 4.3% global growth in the year 2013. However, the worldwide spend on IT is expected to decrease to $3.66 trillion this year (2015), a 1.3 percent decrease from 2014 (Gartner, 2015). Gartner also revealed that the rising dollar is chiefly responsible for the slowdown.

It has been predicted that USA will continue to lead, trailed by Latin America, Eastern Europe, China, and India. North american market is set to grow at 6.3% in 2015; the growth estimations for Mexico and Brazil are 10.1% and 11.6% respectively. India and China's tech markets are forecasted to grow at 7.7% (Everest Research, 2015).

According to Forrester, the US market growth is related to technology market, as the USA is the leading provider and consumer of technology, including mobile apps, software-as-a-service (SaaS) and analytics tools. One of the powerful performers in the market is SaaS and its annual rate of growth is over 20%, and it's believed to grow at this pace (NASSCOM, 2014).

"It is good to presume that the large chunk of the offshore IT market in Eastern Europe, Latin America and Asia are contributing as suppliers, having specialized companies that offer project based IT outsourcing and dedicated offshore development centers for the USA and EMEA regions. Both offshore and local outsourcing models have proven effective, though several companies are choosing to set up their captive offshore development centres due to more transparency in tracking the performance and better cooperation between in-house and associated offshore teams. Although the overall spend on IT outsourcing, according to the forecast, may move slower than the growth in the product tech area, the tendency to grow will remain on a positive side" (Daxx, 2014).

2.3.2 Trends in IT offshoring and delivery models

Two major kinds of delivery models are captives or third-party/external organisational forms (Palugod and Palugod, 2011). The service delivery mechanism selected appears to be based on the availability, type of service and process maturity of suppliers. Captive refers to sub units of companies that provide services to the parent company. Shared services divisions are also sometimes referred to as captives if they are serving different divisions of the same global company (Everest Research, 2015). One of the pioneers of this kind of global delivery model is executed by GE group of companies.

Third-party companies (or external organisational form: figure 2.1) are those who are suppliers or service providers of IT, BPO and similar services. These are local firms or other multinationals serving their clients irrespective of their base location. Joint ventures and strategic alliances are other forms of global delivery models are but are not so dominant in the domain of IT (Palugod and Palugod, 2011). Initially in the phases of the progression of various outsourcing delivery models, the primary service suppliers were the organisations who had their subsidiaries in other countries to acrue the benefit of cost differences and skills availability.

With the maturity of outsourcing, local suppliers started becoming visible in this business and began to develop extensive capabilities. This tendency started evolving large Indian third-party suppliers like TCS, HCL, CTS, Wipro, Infosys and Genpact (Gartner, 2014). In IT offshoring, third-party suppliers are popular, particularly in India accounting for almost 80% of the offshore business while captive organizations account for the rest. This is particularly unique to India as this pattern is not visible in other countries having local suppliers with such capability and size as available in India. The other offshore countries are dominated by captives as supplier organizations in all areas of IT services provisioning. About 90% of offshore exports are dominated by foreign firms in Philippines, which are mainly captives of multinational companies. Its viewed that although captives are also popular delivery models for even new offshore locations (Mexico, Brazil, Vietnam etc), this array appears to undergo an evolution towards local third-party supplier

companies. In the recent times, an increased trend for captives to dismantle is noticed, which is particularly true for financial services sector (NASSCOM, 2014).

As a response to the continued recession and to still operate profitably while in financial crisis, sometimes the clients are not left with any other option than to outsource offshore. Incidentally, on the supply side, several large third-party suppliers have acquired sufficient technical and process maturity backed with financial capability to assume operations of captives not only in their own country but outside as well. For example, third-party suppliers, particularly from India, have begun to multisource across other countries, which eventually resulted in increased presence of third-party players in the global IT outsourcing marketplace (UNCTAD, 2014).

In this study, the researcher focused on European clients outsourcing to the third-party suppliers only. Based on cost effectiveness criteria, third-party suppliers are the most dominant, preferred and yet risky requiring a greater attention to study (Khan and Niazi, 2012). This study is therefore designed to focus on cultivating a healthy and trustworthy relationship between clients and third-party suppliers to improve the engagement success rate. Furthermore, the third-party supplier engagement model is more useful, especially for small and medium sized firms that wish to take the advantage of offshoring.

2.3.3 The geography of IT offshoring

Countries like India, China, and the Philippines are popular offshore locations and continue to be the preferred destinations for IT offshoring. Of these, India is the dominant player and in a higher league especially in ITO services. India alone accounted for 55% of global IT operations (ITO) offshoring and about 35% of BPO in the year 2013-14 (Everest Research, 2015). The tier- 2 countries, the Philippines, Vietnam and China, are also expected to grow their prominence in BPO and ITO areas. India and the Philippines jointly accounted for 40% of all new offshore IT service delivery centres, in the past 2 years. An increased number of new delivery centres are expanding in terms of scale and new locations to tier 3 locations like Vietnam, Mexico and Brazil as well (Daxx, 2014).

The dominance and leadership of these locations are due to the merits in low-cost, scalability, availability of highly-skilled talent pool and high degree of offshoring process maturity. Offshore delivery centres in these countries will be increasingly located in tier 2/3 cities in the future. Industry data reveals a large number of delivery centres were set up in tier 2/3 cities in 2013-2014 instead of big metropolitan cities. The explanations for this shift to tier 2/3 locations include: salary inflation across the major metropolitan cities in these countries, supply challenges of talent, expensive infrastructure in the popular metropolitan cities and the fast improvement of operating and local infrastructure in tier 2/3 cities across most regions. This also includes the techno-physical infrastructure (telecom, cost, availability and access) as well as the social infrastructure. Global diversification of ITO and BPO services offshoring will become a more prominent trend in the future as well with more value added services being provided from offshore (Everest Research, 2015).

UNCTAD reported that a select set of five countries (India, China, Philippines, Vietnam and Ireland) contributed for 95% of the global market for IT offshoring in 2010. However, in 2014, the share of these five countries has fallen to 80%. The countries making inroads in the BPO market include Malaysia, Sri Lanka, Thailand and Singapore in Asia (NASSCOM, 2014). These are followed by the Poland, Czech Republic, Hungary, Russia, Ukraine and Romania in Europe. Also, Brazil, Argentina, Guatemala, El Salvador, Costa Rica and Mexico in Latin America emerged as new attarctive locations. The global market is expected to witness geographical diversification as new locations become competent and viable for offshoring. Global diversification is occurring partly as a result of multisourcing strategies adopted by large suppliers and fierce competition among the offshore nations (Gartner, 2014).

Multi-sourcing strategy appears to be adopted with an increasing frequency. Both clients and suppliers are diversifying and expanding their delivery locations to new regions (Gartner, 2014) to take advantage of skills, mitigate concentration risk, maintain lower cost and to take advantage of new markets. Some examples illustrate competitive advantages and technical skills of specific countries that can help provide further motivations for geographic expansion of offshoring services.

For example, Vietnam is emerging as a destination where cost for IT skills is lower than that of India and China. Similarly, Thailand is an alternative to established destinations for tapping into a low-cost English speaking technical manpower. Poland is also an emerging IT destination with both technical and European language skills. In the actuarial field, South Africa has a significant number of skilled manpower. For bi-lingual English and Spanish talent, Guatemala and El Salvador are the new/emerging destinations coupled with their presence in the same time zone as the USA (NASSCOM, 2014).

2.3.4 Motivations for IT offshoring

Past studies reveal various reasons for IT offshoring and the benefits that the clients could draw from these engagements in particular. The major and quite established reasons for IT offshoring are discussed in this section.

2.3.4.1 Focus on the core competency

By outsourcing of non-core activities, it reduces the effort required to manage peripheral tasks, except for the efforts needed to manage the supplier. This may allow management the opportunity to focus on the important business functions (Kakabadse and Kakabadse, 2000; Jennings, 2002; McIvor, 2000). Further, Kakabadse and Kakabadse (2005) exposed that there is a need for a greater focus on the core competency area in order to remain competitive in the market, based on interviews with 50 CEOs and findings from 747 survey responses. However, in a fast-changing economy the definition of non-core and core must be revisited on a continuous basis, as per McIvor (2000).

2.3.4.2 Cost effectiveness

There are alternative ways by which cost reductions can be achieved. It can be through an improved efficiency due to the application of sophisticated technology or processes and/or through the savings of manpower costs. Cost reduction in manpower costs is based on the presumption that a supplier can provide a specified service more cost-effectively due to its lower operating costs in the offshore location and access to economical manpower (Kakabadse and Kakabadse, 2000; McIvor, 2000).

The offshore suppliers can provide more cost-effective services to their clients also due to having economies of scale and specialization in certain type of services contributing to increased productivity (Sharpe, 1997; Abraham and Taylor, 1996).

2.3.4.3 Capitalise on supplier innovation and investment

Rapid technological change in the market is encouraging firms to offshore services based on the specialization and availability of leading-edge skills with the supplier firm (Henley, 2006). Quinn and Hilmer (1994) recommends, collaboration with suppliers can provide access to high-quality artefacts and very efficient services without the required level of proficiency, investment in human capital, processes or information technology and infrastructure.

2.3.4.4 Enhanced flexibility

In order to stay competitive in the market the client firms leverage on latest technology competence of the supplier firms coupled with the scalability features available in the offshore outsourcing engagements. Therefore, offshoring is proved to be a beneficial mechanism in the long run, through which the clients can draw these added benefits besides getting their work done at a lower cost (Deavers, 1997). Besides this, offshoring is a favourable practice as in-house style of operations may restrict flexibility by using a specific type of technology as per company internal norms (Quinn, 1999). Wang et al. (2008) also confirmed this by examining 120 companies' performance after offshoring their IT functions.

2.3.4.5 Leverage supplier competencies

It is feasible to achieve increased service levels as clients can gain access to superior competencies from their suppliers, studied by Quélin and Duhamel (2003). Also, McIvor (2006) revealed that clients can take the advantage of access to highly skilled technical manpower resources in the supplier country that are not so easily available or highly expensive in the client's country.

Therefore, literature revealed four main motivation categories behind offshore outsourcing:

- Focus on core competency
- Increased cost effectiveness
- Capitalise on supplier investment and innovation
- Greater flexibility and scalability
- Leverage supplier competencies (e.g. technical and process)

Offshore outsourcing is thus considered to be a highly valuable corporate strategy whether used in a tactical or strategic way. However, transforming these into actual benefits also needs a good understanding of the risk factors associated with offshoring. Although offshoring is a valuable business strategy it also poses a lot of challenges needing special attention. This is discussed in the following section.

2.4 Failures and challenges in IT offshoring

Although IT offshoring has multiple benefits, it is not totally devoid of failures and challenges. Several industry reports enumerate the benefits and unprecedented growth of offshore outsourcing without revealing much on the rate of failures. Moe et al. (2014) debated that most papers only report the positive aspects of offshoring. There are only a few research evidences found in the area of challenges and failures in offshoring (Khan and Niazi, 2012).

2.4.1 Failures in IT offshoring

Foote (2004) examined 90 offshoring engagements and revealed that more than 50% of the offshoring engagements fail to achieve the desired objectives of offshoring, i.e. all the above listed basic motivation objectives. One such important factor that has always been under estimated is the importance of relationship issues and this was well articulated by Foote (2004).

In the literature several failures have been highlighted in the areas of requirement analysis, execution of contract, development and implementation of product and post execution support (Moe et al., 2014). However, the basis of some of the

known failures are due to poor management of client-supplier relationship (Kishore et al., 2003, p. 87).

2.4.2 Challenges in IT offshoring

There are crucial issues such as communication skills, culture adjustment, operational behaviour, and time zones difference which are significantly critical for offshoring. It is therefore needed to handle the cultural difference between the client and supplier respectfully. Foote (2004) identifies that managing cultural difference in offshoring may be more challenging than local outsourcing. Furthermore, offshoring projects have increased risk levels due to locational difference, thereby increasing the rate of failure even higher. Existing studies reveal a number of difficulties faced while offshoring such as increased costs of coordination (Aubert et al., 1998), distant geographical location (Herbslab and Moitra, 2001), threats associated with information security (Blackley and Leach, 1996), lack of direct communication (Pyysiainen, 2003), absence of real-time information regarding all outsourced activities (Gonzalez, 2005) and problems due to infrastructure (Barthélemy, 2001). These are illustrated as below.

2.4.2.1 Infrastructure problems

If we consider the example of India, the government of the country has taken appropriate initiatives to solve these problems with infrastructure by investing heavily on high speed telecom links, world class airports, state of the art high ways and improved international transportation links. In spite of this, it is still felt by the offshoring client firms that infrastructure in leading offshore nations are still inadequate. Heeks (1996) studied extensively on India to suggest that several metros in India is challenged with population density related issues like road congestion, insufficient local transportation, power shortage and water supply problems that affect the productivity of the delivery centres. All these issues have direct effects on the growth and performance of the offshoring business.

2.4.2.2 Technical harmony

Existing studies suggest that harmonisation of client-supplier systems/processes are extremely critical to achieve desired objectives of offshoring (Krishna et al., 2004).

However, the major challenge is to harmonise the technology and related processes and put it into practice.

2.4.2.3 Distance

The crucial and intricate process by which two distantly transacting parties manage together being located out of diverse regions represents the nature of exchange in offshoring. Foremost reason for this is the apartness of the regions and deficiency of the control mechanism between the engagements. Researchers investigated, distance between the group members has a range of negative impacts on the global IT offshore services (Herbsleb and Moitra, 2001).

2.4.2.4 Diverse Cultures

Existing studies (Nicholson and Sahay 2001; Krishna et al. 2004) revealed that it is challenging to harmonise particularly when two organisations belong to diverse culture with difference in value systems and working style. They further report on the extra polite behaviour of some of the offshore supplier managers assuming that the client may expect this behavioural norm in joint meetings. Due to this the clients may feel otherwise if issues are not discussed frankly with the objective of addressing them jointly (Nicholson and Sahay 2001, p. 25).

2.4.2.5 Threat of business knowledge and job loss

The topic on job losses occurring at the client firms have been critically discussed both in academic and practitioner's literature in the past 2 decades. Researchers also predicted that offshoring may lead to significant job losses particularly within the client organizations. However, the most important aspect of this is the fear of such job losses may create a snowball effect on the engagement health (Herbsleb and Moitra, 2001). This fear may also lead to co-ordination challenges between the client and supplier managers. The above is also studied by Handfield (1996) and elaborated on business knowledge loss combined with difficulties in transfer of work offshore by the clients to their suppliers. This surely is a challenging issue purely rising out of threat perception and cannot be managed by legal contracts as most contracts are incomplete in nature (Harrison, 2004).

In summary, offshoring IT activity is a challenging practice and posed with various issues to manage. Literature review reveals offshoring IT services witnessed a lot of failures and reasons for this may be revealed by conducting empirical studies. This study is an attempt to empirically examine and suggest an approach to the management of some of these challenges faced by clients in IT offshoring.

2.5 Theories and models in outsourcing

Literature provide several theoretical approaches applicable to outsourcing. These have been studied and analysed in greater details to find the appropriateness and related factors in IT offshoring. Apart from some of the established theories like, Agency Theory (AT), Transaction Cost Economics (TCE), the Resource Based View (RBV), Dynamic Capability Models (DC), Incomplete Contract Theory, Relationship and Social Exchange Theory (SET), other more suitable models available in disciplines like social science, general management, economics and supply chain are also considered.

2.5.1 Agency Theory (AT)

An agency relationship is defined as "*a contract in which an organisation or an individual (principal) engages another organisation or an individual (agent) to perform a set of services that involves delegating some decision making authority to the agent*" (Jensen and Meckling, 1976; p. 305). Therefore, the theory primarily focusses on determining and creating the most effective relationship between the people, information and organisation with some known assumptions associated with these three entities.

Jensen and Meckling (1976) further state that the moral hazard behaviour can be reduced drastically by effective implementation of measurement of performance and associating with rewards/penalty with it. Though it may sound very simple but this was one of the major contributions made by this theory. However, this was well debated by Logan (2000) who claimed incentive plans combined with performance monitoring can be useful but cannot be used to manage the overall risk in outsourcing.

2.5.2 Transaction Cost Economics (TCE)

This theory is the most applicable reason in the area of IT offshoring and in general for any outsourcing engagement. TCE talks about the implications of choice available to an organization to perform a transaction in-house or with an external supplier (Williamson, 1991).

Transaction costs can be decomposed into four separate costs related to transacting (Williamson, 1985):

- search costs (i.e. of gathering information to identify and evaluate an outsourcing supplier);
- monitoring costs (i.e. of monitoring the agreement to ensure that the outsourcing supplier fulfils its contractual obligations);
- contracting costs (i.e. of negotiating and writing the contract);
- enforcement costs (i.e. associated with post bargaining and sanctioning the outsourcing supplier when it does not perform according to the contract. Search and contracting costs are usually termed ex ante transaction costs.

TCE establish a connection between the transaction costs and contract completeness. This is treated to be the main contribution of TCE. It also states that transaction costs are subjected to asset specificity, rationality, uncertainty and opportunism. But agency theory is based on findings of information asymmetries, goal incongruence, human moral hazard and risk avoidance.

2.5.3 The Resource Based View (RBV) of a Firm

On one hand TCE concentrates on the costs linked with performing interactions between two distinct entities, the RBV focusses on those factors that facilitate firms to achieve a competitive edge. Prahalad and Hamel (1990) proposed RBV as a continuation of the core competency model. As RBV dwells with understanding of critical importance of resources, it helps decide which resources should be retained or replaced. Certain functions and processes should be outsourced or not is also determined by RBV that include:

- The relation between firm's resources and sustained competitive advantage that was investigated by Barney (1991);
- Previous studies state RBV as a mode of analysing sustainability thereby determining some companies appear to earn sustained returns (Mata et al., 1995);
- It's also argued by Barney (1991) that this outcome is realised as companies have access to their key resources internally or externally.

2.5.4 Dynamic Capability (DC)

The extension of RBV is viewed as dynamic capability model. The capacity to continuously renew, adjust and re-configure competences is referred as dynamic capability. A dynamic capability framework analysing the sources of wealth creation and retention by firms was created by Teece et al. (1997). DC is also enumerated as a firm's capability to develop, integrate and configure the available competences to address the dymanically changing settings (Teece et al., 1997).

2.5.5 Theory of Incomplete Contract

Incomplete contract theory states that no contract is complete in nature. By understanding the challenges of mutuality, conflict and order, Commons (1931) suggested the challenges of governance of contractual relationships. All complex outsourcing contracts are inevitably incomplete as noted by Harrison (2004). This kind of issue with the incomplete contracts is further intensified by the market dynamics facing both clients and suppliers.

Frequent changes in the context of partnership program, signifies that apart from formal contacts, building an informal contract is an important component in controlling the partnership aspects. Based on 82 number of surveys conducted with the decision makers in client organisations by Barthélemy and Quélin (2006) suggested the above. They further claim, as contracts are incomplete, an appropriate mechanism to self-enforce should be developed to safeguard performance. It's also suggested by them that appropriate clauses like incentives, flexibility and control are critical within such contracts.

2.5.6 Relationship Theory (SET)

Relationship theories explain social and economic exchanges including cooperative interactions as paramount aspects in inter-organisational relationships. Klepper (1995) and Kern (1997) recommended that organisations should establish that the benefits of an exchange agreement between parties would be higher than those that could be gained through replacement from altercation with an alternative/another partner. Beulen and Ribbers (2002) concentrated on aspects of social exchange between the outsourcing clients and suppliers.

Dibbern et al. (2004) envisaged that relationship theories were suitable for developing planned partnership actions e.g. strategic alliances and client-supplier relationships, as they signify on exchanges between parties which are aligned towards mutual achievement of the both party's goals. Even though the strength of the relationship theories is their stress on the inter-organisational relationship and the exchanges that complement the client-supplier relationship, one of their weaknesses is the absence to project upon the environment or the situation in which the relationship takes place (Kern and Willcocks, 2001).

2.5.6.1 Social Exchange Theory (SET)

Social Exchange Theory analyses various exchange of activities including both intangible and tangible interactions between two or more people (Homans, 1961). Social exchange it denoted as "*Voluntary actions of individuals , motivated by the returns they are expected to bring, and usually bring, from others*" (Blau, 1964; p. 91).

Emerson (1972) viewed that the paramount components involved in any social exchange between clients and suppliers are namely: 'Balance', 'Reciprocity'. 'Cohesion' and 'Power'. The interaction between two actors (people and organisations) results in various eventualities, to increase the motivation of the actors to readjust their resources and receptions to each other's expectations. This procedure involves 'Reciprocity' or the mutual exchange resulting from the necessity to reciprocate when benefits are achieved. It also includes 'Balance' which relates to the individual rate of dependence that the actors have vis-a-vis their

partner in the exchange. Next is 'Cohesion' which is the capacity of the parties to maintain their relationship, especially when facing stress and strain, as when conflict takes place. Last but not the least; 'Power' is the ability of one party to enforce costs on the other (Dibbern et al., 2004).

2.5.7 Other theoretical models of outsourcing presented in the literature

Outsourcing has been emphasised in the traditional literature in favour of non-core functions but recent literature suggest core activities can also be outsourced, but need extra steps within the management of processes.

Within a firm's value chain it is critical to address the decision of outsourcing from function perspective as per McIvor (2000). It's also argued by him that it becomes much easier to qualify the activities adding value when a firm is viewed from a value chain perspective. A high dependence on the supplier is exhibited when strategic outsourcing is carried out making the role of supplier more vital. A multi-staged model is suggested by McIvor (2000) to enumerate this:

- Definition of core activities - Stage 1;
- Benchmark potential suppliers based on their competencies in fulfilment of outsourcing needs- Stage 2;
- A detailed cost analysis of make or buy decisions of core functions to be carried out considering the supplier competencies- Stage 3 and
- In the last step (Stage- 4), the supplier suitability for outsourcing core activities is evaluated. However, if the client prefers to retain knowledge of the core activities internal to their business it needs to establish appropriate partnership model with the supplier.

Another relevant model was developed by Grossman and Helpman (2002) particularly focussed on endogenous structure of firms which is refered as an equilibrium framework. The balance of negotiation power, availability of suppliers and competition between them determined the feasibility of outsourcing as per this framework. Hence they claim that the benefits of outsourcing may not be always

similar but will depend on the type of business activities of firms that are outsourced. Therefore its difficult to find a standard model of outsourcing that can be followed by any business entity.

The models in the literature suggest that firms should take appropriate steps to evaluate and execute suitable models while taking outsourcing decisions. The following is a summarised version of the steps.

- An understanding of core competency areas of the firm;
- Dynamically monitoring the firm's core competences, over a period of time;
- Establishing the priority drivers of outsourcing.
- A clear evaluation and understanding of the risks associated with outsourcing by all stakeholders in the client organisation. The client should also identify the potential risk mitigation mechanisms should they arise. This is particularly based on the supplier characteristics and the complexities of the activities being outsourced.
- While engaging with offshore outsourcing, the client should be able to accept that all such contracts that are incomplete in nature and they are required to have some alternate back-up plans to fill such gaps in the contract.

2.6 Identification of the gap in literature

The proposed models of outsourcing in the literature illustrate classical approach to outsourcing may not be relevant or practical in IT offshoring practices in the modern world. This study (including the validated conceptual framework) attempts to bridge the gap in the existing theoretical knowledge.

2.6.1 Research Gap

Over the past two decades, client firms participating in offshoring have reported significant failures in meeting with their objectives (Foote, 2004). While evaluating the issues with offshoring, most studies focussed on cost, process, quality, risks, governance and skills availability (Han and Mithas, 2013). However, an

overwhelming yet understudied part of the problem is the nature of relationship between client and supplier. As identified by Lee et al. (2004), the overall client-supplier relationship is reflected through the characteristics of legal contracts primarily. While this kind of a practice is certainly visible but the challenge is if there exists any contract that is fully comprehensive (Barthélemy, 2003).

Offshoring relationships are dynamic and evolve over time due to rapid changes in the global business environment and the client's internal requirements (Kishore et al., 2003). Additionally, continuous technology improvements allow not only more volume of work but also other different types of work that are related. These days clients are demanding more complex, value-added work of a strategic nature rather than pure transaction oriented jobs for the purpose of cost savings (King, 2005). Changes evolving in the new business models in IT offshoring seem to require closer and more complex relationship management approaches between client and supplier to make it a success for both parties (Kaiser and Hawk, 2004; Pfannenstein and Tsai, 2004).

As outsourcing is well practiced over the past two decades in various disciplines including IT, the literature review and analysis is quite exhaustive in this area. However, following the steps of systematic literature review (Boland et al., 2013), an exhaustive study conducted by Dibbern et al. (2004) is considered by the researcher as a place to begin with for identifying gaps in the literature. While looking at most common challenges in outsourcing some of the gaps become more pronounced directing towards the need for an effective relationship management. The common challenges may include: outsourcing core competencies, supplier selection, poor or tight contract, personnel issues, losing control over the supplier, uncertainty risks management, long-term or exit strategies and hidden costs etc. (Vagadia, 2012).

Furthermore, Dibbern et al. (2004) noted a “relative lack of research directed towards an examination of the relationship management factors between the client and supplier, especially pertaining to offshoring engagements”. Also, another interesting fact was revealed through their study that most of the prior research in

the IT outsourcing domain are qualitative studies done with literature reviews, case studies and opinion articles. There are limited studies available with positivist approach thereby making the objectives of this study towards filling this gap.

Dibbern et al. (2004) further noted that although several studies advocate the need and importance of the relationship management, still there is a relative lack of positivist research examining, analysing, and recommending an appropriate relationship management and development framework. Hence, the current study fits in this gap as the objective is to identify the critical factors, its importance/relevance with IT offshoring relationship development and associated consequences, oriented towards contributing with an integrated conceptual framework to manage such client-supplier engagements towards success.

Researchers (Dibbern et al, 2004; Kern and Willcocks, 2000) also stated that offshoring outsourcing success is often measured in terms of economically measurable variables such as cost savings or productivity enhancements. However, this may not be always be true as there are other reasons companies strive for, when deciding on offshoring. Particularly, IT offshoring is witnessing a trend to offshore for more strategic and operational business advantages these days.

Upon studying the organizational theories associated with outsourcing (section 2.5), the researcher identified some specific gaps that existed while applying these theories on IT offshoring engagements. As per agency theory, contract is considered to be the only basis for managing the relationship in outsourcing, while TCE suggests that the existence of opportunism in outsourcing relationship should be overcome. A finding from agency theory (Jensen and Meckling, 1976) is quite evident to promote the use of rewards/penalty scheme for monitoring progress to reduce hazardous behaviour of the supplier. Logan (2000) also supported this by stating that effective incentive schemes and monitoring though useful but may not provide the framework to manage uncertainty risks associated with the outsourcing/offshoring engagement.

In an offshore outsourcing engagement, the uncertainty arises due to the fact that it is difficult to forecast the contingencies that might happen in a transaction

process. This is supported by TCE theory. Both TCE and agency theory aim to arrive at the most appropriate contract between the parties to limit the transaction and agency costs by limiting the opportunistic attitude of the supplier. It may eventually create an issue in emerging contractual relationships as most contracts are incomplete in nature, based on incomplete contract theory. Both RBV and DC theories suggest that an outsourcing organisation should meticulously measure the activities to be outsourced.

However, the following aspects are not well addressed in the literature:

- Dealing methods with the conflicting drivers of outsourcing based on the perceptions of various stakeholders within a client organisation.
- Due to incomplete nature of all complex contracts, literature still suggests that it should be complete as far as possible. However, it does not suggest what else could be incorporated in the management of such engagements should there be any gap in the contracts.
- Though there are evidences of outsourcing studies across other disciplines on relational approach in the literature but there are no evidences available that show if that can be used in IT offshore outsourcing as well.
- While each of the theories address some specific aspects in outsourcing like cost, contract, opportunism but these do not independently provide an integrated model identifying the critical factors for success and minimizing various forms of risk when offshoring.
- Also, due to the absence of a comprehensive framework of outsourcing, it has led to a situation whereby most outsourcing decisions are being taken frequently by default and without considering any long term consequences on organizational competitiveness and management effectiveness (McIvor, 2000).

2.6.2 Importance of relationship management in IT offshoring

The significance of effective management of relationship is manifested from the challenges and failures experienced with offshoring engagements. Most failures in offshoring engagements is due to insufficient relationship management focus. Gaps

from existing studies reveal that a lot of critical challenges can be well addressed with the development of effective relationship between the transacting parties. But there are not much of empirical evidences available to justify this gap, though the need for research in this area is propagated by Kern and Willcocks (2000) and Poppo and Zenger (2002).

Outsourcing has increased in scale, covering various geographies and functions. The challenges have surpassed the systems established to manage outsourcing engagements. The evolution of offshoring indeed led to making relationship management difficult. Developing an understanding of the relationship that develops over time is critical for outsourcing engagements as per Kirkpatrick (1991). Offshoring surfaced new added challenges along with making the prevailing ones complex enough for handling. Increased number of new challenges justifies the need for relationship management focus.

Although the significance of relationship management is quite evident in the literature, this area is relatively under-investigated by the researchers in IT offshoring/outsourcing domain. Unavailability of appropriate guidelines and frameworks suggesting means to develop relationship intensity is evident from the status of existing research. However, several researchers claimed for a need for such research while focussing on some associated aspects in IT offshoring models, issues, challenges and motivations.

There is another notable fact noticed in the literature. Most research studies focussing on IT offshoring are based on case study approach focussing on individual contracts (Khan et al., 2003). Therefore, the results from these studies are difficult to be generalised as these are based on individual firm's experience. Hence, this study is focussed on these needs and gaps that forms the basis for development of an appropriate framework (empirically) to contribute towards relationship management development towards achieving success in IT offshoring.

2.6.2.1 Existing models in IT offshoring

From the IT project management and manpower context of outsourcing, Smith et al. (1996) proposed a theoretical model. This model entails a bundle of issues such

as resource requirements (attributes that affect resources) and the nature of activities influencing manpower requirements in IT offshoring. A fundamental model of outsourcing exchanges was studied by Kern and Willcocks (2000). This model is based on an empirical investigation of 12 British firms and is based on contractual, financial and behavioural aspects. In spite of the above proposed models, not one is truly concerned with relationship issues that can be managed effectively. These models focus on pertinent issues like offshoring decisions (Willcocks and Fitzgerald, 1993); contracts types (Nam et al., 1996); workability choice (Ravichandran and Ahmed, 1993) and monetary advantages (Loh, 1994), however all of them seemed to have missed the relationship management aspects of outsourcing.

Only a handful number of offshoring engagements appear to follow the above suggested models. Several supplier firms these days apply quality management processes like ISO (International Organisation for Standardisation), CMM (Capability Maturity Model) and Six Sigma to prove their credentials in executing these engagements. As such, the above practices exclude aspects of any relationship issues.

In recent years, some models like COPC (Customer Operations Performance Centre) catering to customer support centres and data processing centres and ISO 20000 for service management are seen in practice particularly for offshoring. Client firms may impose assortment of these practices (e.g. ISO, CMM, COPC etc.) on their respective suppliers (Hyder et al., 2004) as a platform of tracking and performance measurement. To improve sourcing practices in the Internet-enabled economy, the eSourcing Capability Models (eSCM) are "best practices" capability models supported by a set of qualification parameters. However, only by imposing the usage of a variety of such frameworks may prove counterproductive, as the IT Service Qualification Centre of Carnegie Mellon University (eSCM) recommends: “Even if each of the frameworks offers a significant value-added increment to a supplier’s capability, the assortment of emphasis and perspectives could be counterproductive” (Hyder et al., 2004, p. 2).

Therefore, in order to develop an integrated framework for IT offshoring relationship leading to a potentially successful engagement a review of critical factors is necessary (section 2.6.4).

2.6.3 Social Exchange Theory (SET) – the foundation of this study

The central theme of the study is founded on social exchange theory (SET) in the domain of relationship management. This theory upholds the fact that client-supplier relationship may be closely bounded and yet simultaneously is able to offer the required flexibilities to perform. This may not always be an instinctive approach in IT offshoring engagement management. In the current global IT outsourcing scenario, facing with challenges of numerous engagement failures, force the client firms to increasingly adhere to IT offshoring practices through rigid contracts. These contracts suppress flexibilities making relationships vulnerable and limit long term relationship maturity.

Several theories have been used in the field of IT offshoring and some of these can be useful in determining how the offshoring arrangement should be crafted most efficiently to meet with the economic objectives. In order to get a better hold the entire perspective of the offshoring literature, Dibbern et al. (2004) structured the theories used in the past studies primarily into three groups based on their approach such as social, economic or strategic management.

While the strategic management theories explain a company's approach to develop and implement strategies for larger visionary business advantages, the resource based theories are related to strategic management theories and placed in the same category with them by Dibbern et al. (2004). The reason for this is: Resource-based theory (RBV), Dynamic capability theory and the resource dependency theory also view a firm's internal resources/capabilities as the reason for implementing strategic plans. To mention an example, one of the most popular strategic management theories in the management literature is Porter's (1980) theory of strategic advantage is the 'five forces model'. Therefore, most of the recent research on offshoring has taken a strategic management theoretical outlook (Lee et al., 2004), a trend of moving away from just cost savings (TCE) or resource

approach (RBV) towards using offshoring as a strategic tool for business advantages.

As discussed in section 2.5, the relationship theories encompass cooperation, multiple interactions as well as economic and social exchanges as a core philosophy behind inter-organizational relationships. Relationship theories comprising social theories are placed in the same category by the study of Dibbern et al. (2004).

Social exchange theory (SET), as composite part of relationship theories, focuses on the exchange of human interactions. Although SET is often applied at an individual level, this is also used at the organizational level catering to the exchange of activities between the transacting companies (Emerson, 1972). Moreover, a majority of the social theory research applied within both IT offshoring and general outsourcing engagements have examined the aspect of power and politics between offshoring clients and their suppliers, home countries, aspects of job losses thereby blaming the offshoring decision itself. It is quite evident from the literature that SET has not been used effectively to examine the nature of the client-supplier relationship even though suggested through an exploratory study by Kern and Willcocks (2000). Therefore the need for an introspection and appropriateness of SET would seem most relevant for examining the complex offshoring relationships of this era.

SET views on the exchange of both non-tangible and tangible goods. The second view is an economic view of SET that focuses on the exchange of tangible goods aims to measure the direct economic and contract advantages (Zafirovski, 2003). Therefore, SET interweaves well with some of the other theories like TCE, AT and RBV.

Hence, the researcher decided to use Social exchange theory (Blau, 1964; Emerson, 1972) in this study as a central theme for examining the client-supplier relationship. Critical factors are identified by a review of the relevant outsourcing literature primarily from general management, marketing, supply chain, economics, healthcare, IT and organizational science disciplines, as discussed in the following sections.

2.6.4 Identification of critical factors for overall success in IT offshoring

Various outsourcing studies claim across other disciplines suggest effective management of relationship is extremely critical to the success of an outsourcing engagement. There are only a few studies (Kishore et al., 2003; Lacity, 2002; Kern and Willcocks, 2000) emphasised on the importance of relationship within IT offshoring based on some of the most commonly visible factors like cultural dynamics, communication and contractual issues. This particular section discusses all the critical factors recorded in the literature of outsourcing studies.

A study of Kern and Willcocks (2000) state, factors like information exchange, effective communication and cultural integrity are critical to relationship management in outsourcing. Another study in supply chain (Brereton, 2004) also reflect similar factors stating that preparedness of parties to share information coupled with mutual respect for each other is critical to success in relationship. Meeting expectations was considered as a critical measure of success relationship success by Stralkowski and Billon (1988). This also relates to client satisfaction level in terms of success achievement that may reflect in the continuity of the engagement. Information sharing as a critical factor is also considered by Kishore et al. (2003) and is related to the aspect of level of co-operation between the engaged parties. Other researchers (Nam et al., 1996 and Lacity, 2002) claim that the skills and commitment to the deliverables that was initially decided in the contract, cope with change and to recognise added requirements may arise during the engagement time frame are the identified critical factors of success.

Additionally, some of the other studies place the above factors to have an echoing effect on trust in relationship management (Sabherwal, 1999; Kern and Willcocks, 2000; Kishore et al., 2003; Tian et al., 2008).

Therefore based on structured literature survey, the current study attempts to answer the question:

What are the critical factors for the overall success of IT offshoring relationship?

To arrive at the identification of the potential critical factors for overall success of the engagement, the researcher further carried out a structured and focussed literature survey and is detailed as below.

Publication selection:

Inclusion criteria: This is used to determine relevant literature (papers, industry reports or books) found by the search criteria is used for relevant knowledge extraction. The criteria are listed below

- Studies that describe factors and motivators for outsourcing.
- Studies that describe outsourcing relationship management.
- Studies that describe the critical success factors in offshore IT outsourcing.
- Studies that describe risks, issues and challenges in outsourcing.

Exclusion criteria: The criteria are listed below.

- Studies that do not describe offshoring client-supplier engagements.
- Studies that do not focus on critical success factors affecting offshoring engagements.
- Outsourcing model or studies that may not relevant for IT offshoring (e.g. studies that did not have an element of distance, virtual teams or diverse culture).

Published papers from leading Journals reviewed:

Based on the above criteria the researcher reviewed 317 articles, both empirical and non-empirical studies between 1985 and 2015 in *Journal of Operations Management, Journal of Marketing, Journal of Applied Psychology, Journal of Information Technology, Journal of Management Studies, Journal of Management Information Systems*, *Academy of Management Review*, *Journal of the Academy of Marketing Science, Information and Management*, *Management Sciences*, *Journal of Business and Psychology, Information System Research*, *Journal of International Business Studies, Journal of Strategic Information Systems* , *Industrial Management and Data Systems, Communications of the ACM*, *IEEE Software, European*

Management Journal, Journal of Business Logistics, European Journal of Information Systems and Proceedings of the Annual Hawaii International Conference on System Sciences.

After initial filtering and eliminating the articles (based on the exclusion criteria) that may not be relevant for IT offshoring or too old, the researcher was left with only 43 journal papers to apply in this study. The systematic literature review (table 2.2) revealed the following top 7 factors have the highest occurrences in the literature as the critical factors for overall success in relationship management of the engagements.

These factors identified through systematic literature review are highlighted in blue in table 2.2.

1. Legal contracts / contract management
2. Relationship specific investments
3. Information and knowledge sharing
4. Information security practices
5. Trust
6. Minimisation of uncertainty risks
7. Outsourcing success (expectations match).

Though the highest mention of trust was found as a critical factor based on the systematic literature review (table 2.2), its importance is found to be predominantly abstract in most studies. A detailed examination into trust is found to be inadequate. Hence, the relevance of the identified critical factors in IT offshoring relationship management towards trust-building are examined empirically as part of the current study.

Table 2.2: Categorisation and identification of critical factors for establishing overall outsourcing success on study strategies based on (Boland et al. 2013).

Critical Factors for overall outsourcing success	Various study strategies reviewed (n=43)			
	Case studies (n =20)	Industry reports (n=3)	Interviews (n=13)	Surveys (n=7)
	Freq	Freq	Freq	Freq
legal contract between client and supplier	11	2	10	5
better information sharing	10	1	10	5
trust factor of clients	8	1	11	5
knowledge sharing	8	2	12	5
uncertainty/risk reduction	9	2	10	5
Information security processes, tools, procedures and policies	7	1	9	5
mutual expectations for success	7	2	8	5
bi-directional travelling/visits	4	1	3	1
training programmes	4	1	4	1
cultural bridge	4	1	4	2
conflict resolution	4	1	4	3
common values	3	0	3	5
working environment	3	1	3	4
creativity	3	1	3	3
quality management	3	1	3	3
organisation chart development	2	1	2	5
steering committee meets	2	0	3	4
future planning	2	0	2	6
using references	2	0	2	3
change of control modes exerted by the client	2	0	2	2
business improvement	2	0	3	2
a system to monitor cost	2	0	2	6
eliminating power hierarchy	1	1	1	5
employees' security and satisfaction	1	0	2	6
maintaining consistency	2	0	3	4
corporate intranet for shared understanding	1	0	3	7
internal processes and coordination/control	1	0	3	4
strict governance by clients	1	0	2	3
measurement charter	1	0	2	5
change management	1	0	2	4
anticipated change plan	1	0	2	3
feedback plan	1	0	2	5
Foundation characteristics	1	0	2	4
service level objectives	1	0	2	6
process ownership plan	1	0	2	4
service level contents	1	0	2	4
Integration activities	1	0	2	4

Source: Adapted (with additional literature review) from Niazi et al. (2013, p. 288). The top 7 factors identified through systematic literature review are highlighted in blue.

2.6.5 Understanding of trust

Trust is the most significant critical factor in successful relationship is evident in the literature. The majority of research focus into trust has been found in various other disciplines like organisation behaviour, economics, supply chain management, social science and marketing. Level of trust in a relationship can be a measure of relationship intensity in an exchange relationship between the partners (Doney and Cannon, 1997; Tian et al., 2008).

This study adapts this view of relationship intensity combined with closely associated attributes of trust to explore further, linked with the aims and objectives. This closely inter-related relationship attributes of trust (e.g. commitment, loyalty, dependency, reliability, sincerity, fairness, co-operation, collaboration and other variants of trust) to signify the relationship intensity are backed by literature evidence (Ganesan, 1994; Anderson and Weitz, 1989; Morgan and Hunt, 1994; Das and Teng 2001; Doney and Cannon, 1997; Dyer and Chu, 2011; Kennedy et al., 2001; Tian et al., 2008).

Besides above, a few research studies (Blau, 1964; Deutsch, 1962; Luhmann, 1979; Gambetta, 2000) across other specialised disciplines have developed authentic studies on importance of trust. Despite such research studies, definition of trust was not very clear and universal (Mayer et al., 1995). Other researchers like Costa et al. (2001) claim definitions of trust that are presented across diverse disciplines do not harmonise with each other.

It is evident from the literature that there are different approaches made to define trust. These are fiduciary approach (Anderson and Narus, 1990; Holis, 1998; Cheung and Lee, 2006) and predictive approach (Hoffman, 2002; Gambetta, 2000). Also it is stated in the literature that fiduciary approach ensures more than the predicting the behaviour of the other party. It emphasises the perceptions of the trustor that the trustee will fulfil the responsibility entrusted in them by even sacrificing some of personal benefits, if need be.

However, some issues in the predictive definition of trust were found by Williamson (1993). He stated that this relationship is a composite part of the risk appetites and

risk-taking attitude of the party. While trust may mean risk, but risk may not imply trust. In contrast to the above, Hoffman (2002) claimed that the fiduciary approach is different as existence of obligation dis-associates trust from risk. There is another view of trust revealed by Messick and Kramer (2001) which states that when the trustor places trust in trustee, it is done with the understanding that it becomes obligation of the trustee to accomplish trust in the relationship.

From various broad definitions available in the literature across other disciplines of study the researcher attempted to develop a working definition of trust for the current study.

> **Trust is about positive expectations based on relationship intensity reflecting risk awareness, rational interest and related actions of involved parties in maintaining and enhancing relationship success.**

Appendix- 1 provides definitions of trust existing literature, including trust variants, which were considered and referred for evolving the working definition as above.

Despite the fact the outsourcing literature has revealed the relevance of trust; there is hardly any empirical examination of trust building factors in IT offshoring relationship management leading to the overall success of the engagement.

Based on the above understanding of trust, the next subsection reviews how trust can be cultivated between the client and supplier.

2.6.6 Identification of trust cultivating factors (antecedents of trust)

This particular section illustrates empirical results based on trust studies from other management fields that may also be relevant to trust-building (antecedents) in IT offshoring relationships.

Several researchers contributed with studies on “trust” in various fields namely:

- Luhmann, 1979 (social sciences),
- Williamson, 1985 (economics),
- Doney and Cannon, 1997 (marketing),

- Dyer and Chu, 2011 and Tian et al., 2008 (supply chain management),
- Morgan and Hunt, 1994 (organisational literature),
- Hall et al., 2002 (health studies),
- Hoffman, 2002 (politics),
- Alshawaf and Khalfan, 2003 (public sector),
- Kadiyala and Samaddar, 2006 (technology and IT outsourcing) and
- Parkhe, 1998b (international alliances).

Here, some additional critical viewpoints on cultivating factors of trust from more literature evidences are discussed.

Barthélemy (2003) suggested on soft and hard sides of IT outsourcing. He stated that the soft-side focusses on the development of relationship based approach whereas hard-side is refering the creation of tightly structured contract. The results do not reflect how to achieve the soft-side, but views that trust is critical.

The existing literature also reveals that legal contract (as a premise for business and operating model) is central to achieve trust between the client and supplier and eventually leads to success of any engagement. The legal contract captures the requirements that need to be accomplished to achieve overall success of engagement (Gottschalk and Solli-Saether, 2005; Lee, 1996). A “tight contract” is described by Currie and Willcocks (1998), as a well specified and detailed set of tasks associated with deliverables, timelines and price. The need for this stated to be a “must-have” for ensuring fulfilment of expectations. On the other hand having a loose contract may mean risk taking leading to failures. Furthermore, a study of Hackney and Hancox (2000) reveal that 80% of clients felt that they should have had a more tightly defined contract in place rather than a loose contract that was responsible for the failures of their engagement in IT offshoring.

Kadiyala and Samaddar (2006) examined a model of technology outsourcing by inter changing the cultural dynamics. The objective was basically to implement a globally extended model through the approach of Korean technology-outsourcing, by replicating it. Again, the study contributions do not truly reflect cultivation of trust in technology outsourcing.

Examination of the nature of trust within virtual teams by Kanawattancahai and Yoo (2002) revealed the trust development is certainly more important in virtual team relationships leading to enhanced and transparent communication, superior team work, better risk appetite, better co-operation coupled with satisfaction achievement. The study further suggested that performing teams managed to maintain and improve on these besides quickly building trust at the beginning of the engagement.

Moreover, literature reveals that an understanding of information security aspects and how to safeguard client's data protection needs help achieve trust in IT outsourcing relationships. Security expectations include if the client organisation can trust the supplier when handing over sensitive data. Security may be classified into technical security and administrative security categories (Pfleeger and Pfleeger, 2003; SIG Security, 1999). According to Khalfan (2004) and Endorf (2004), the security of information and protecting client's data are extremely vital. Permitting a supplier to handle clients' key information (data confidentiality) can be dangerous. This further strengthens the importance of the area of information security practice when achieving trust in IT outsourcing relationships.

In the field of economics and supply chain literature, it is viewed, most relationship-specific investments in a relationship are of insignificant value when utilised in any alternative relationships (Heide and John, 1988). Hence, close partnerships frequently lead to safeguard relationship-specific investment made (Williamson, 1985).

In the supply chain discipline, Dyer and Chu (2011) revealed various antecedents of trust by means of three theoretical frameworks: social relationships and embedded ties, institutional processes and routines and an economic incentive alignment. There were several weaknesses in Dyer and Chu's (2011) research study in terms of measure of relationship strength like number of face2face sales meetings and supplier initiated improvisation of product may not need client intervention that may be misinterpreted as absence of client trust.

Hence, these gaps were taken into consideration in this study and appropriate constructs were considered as antecedents of trust.

Sabherwal (1999) reported recognising the value of well-drafted and formal contract as a necessity for structural controls within outsourcing relationships. However, as his study is based on 18 cases only, of which 13 were from the supplier's viewpoint, the conclusions are limited in nature.

In the discipline such as sales and marketing, sharing information is also interpreted as "good-faith", a gesture of trust in relationship context (Costa, 2000). While Sharing of sensitive information is necessary for coordination between the involved alliance partners, it may bring a client firm in a vulnerable situation. The preparedness for sharing information towards the benefit of partnership, results in long-lasting intentions and compassion of the involved partners (Doney and Cannon, 1997). A strong connection between information sharing and trust in a buyer-seller relationship has also been empirically revealed by Doney and Cannon (1997).

In logistic outsourcing area as well, absence of trust is noted as the most significant bottleneck to successful and rewarding relationship in alliances, responsible for almost one-third of failures in such outsourcing engagements (Sherman and Sookdeo, 1992; Tian et al., 2008). Severe absence of trust in the relationship often are the causes for decreased efficiency, productivity and effectiveness, because the partners need to spend a considerable time examining transactions thereby analysing each other's reliability, credibility and trustworthiness (Kwon and Suh, 2004). Also, it's advocated by Bowersox (1990) that a logistics outsourcing relationship should attempt developing high degree of trust between the partners as inability to build initial trust in relationship might negatively affect the success of the engagement.

Summarising the above, the trust factor is found to be vital within several other disciplines. However, various disciplines handle with a context specific need and represent a particular view. Critical trust building features as understood from

other disciplines and that can be potentially examined in IT offshoring relationship are:

- Building of trust is critical and important in every relationship. However, not much research has been carried out in the sphere of soft factors and how to cultivate/build trust (Barthélemy 2003; Lee, 1996; Gottschalk and Solli-Saether, 2005; Currie and Willcocks, 1998).
- Furthermore, understanding the need for formal, well-drafted contract, necessary structural controls, the partners in offshoring engagements must develop trust on each other (Sabherwal, 1999), which is a form of deterrence-based trust (Shapiro et al., 1992).
- Trust becomes more significant when the partners operate from dispersed geographical locations (Kanawattancachai and Yoo, 2002).
- Doney and Cannon (1997) claimed strong connection between trust and information sharing in a buyer-seller partnership relationship.
- Several trust building factors are fairly consistent – reliable and shared information channels for interactions (Costa, 2000).
- Ganesan (1994) and Williamson (1985) confirmed that buyers trust suppliers once they notice suppliers having made distinctive investments on their behalf. This is also well supported by Kakabadse and Kakabadse (2000).
- Khalfan (2004) and Lee and Leem (2004) demonstrated that clients firms trust their suppliers when they develop confidence in suppliers managing and protecting their confidential business critical information in a desired way.

Therefore, the current study conducts an investigation into the research question:

What are the antecedents or determinants (cultivating factors) of trust in IT offshoring relationship and how do they influence trust?

To arrive at the identification of the potential antecedents/determinants of trust, the researcher further carried out a structured and focussed literature survey and is detailed as below.

Publication selection:

Inclusion criteria: This is used to determine the relevant literature (papers, industry reports or books) found by the search criteria used for relevant knowledge extraction. The criteria are listed below

- Studies that discuss about trust in any type of outsourcing engagements.
- Studies that recognised the need for relationship management or development between the client and supplier in outsourcing.
- Studies that describe the critical success factors in any kind of outsourcing engagement across various disciplines.
- Studies that describe challenges in meeting the objectives in outsourcing.

Exclusion criteria: The criteria are listed below.

- Studies that do not talk about need for relationship management, trust or lack of trust between the client and supplier.
- Studies that do not focus on need or gap in effective client-supplier relationship management.
- Outsourcing models or studies that may not relevant for IT offshoring (e.g. studies that did not have elements of distance, virtual teams or diverse culture).

Published papers from leading Journals reviewed:

Based on the above criteria the researcher reviewed 185 articles, both empirical and non-empirical studies between 1979 and 2015 in *Journal of Marketing, Journal of Applied Psychology, Journal of Operations Management, Journal of Supply Chain Management, Academy of Management Review, Journal of Global Information Management, Psychological Methods, Industrial Management, International Journal of Operations and Production Management, Information Management and Computer Security, Organization Science, Communications of the Association for Information Systems, Sloan Management Review, Health Services Research, Advances in International Marketing, Journal of Business Research, International Journal of Management and Enterprise Development, Journal of General*

Management, Journal of Information Technology Management, Strategy and Leadership, Journal of the Academy of Marketing Science, Information and Management, Management Sciences and Journal of International Business Studies.

After initial filtering and eliminating the articles (based on the exclusion criteria) that may not be relevant for IT offshoring or too old, the researcher was left with only 37 journal papers to apply in this study. The systematic literature review (table 2.3) revealed the top six factors that surfaced as the most critical ones, the researcher considered as trust building critical factors. These factors identified through systematic literature review are highlighted in blue in table 2.3.

These are categorised as:

1. Legal contracts or contract management;
2. Relationship-specific investments;
3. Information and knowledge sharing;
4. Information security practices.

Even though the systematic literature survey (table 2.3) identified 10 factors for establishing trust, the researcher categorized them into 4 critical factors, as some closely related factors are combined into one single factor, with high inter-correlations that aligns well with the study objectives.

Table 2.3: List of factors potentially key to trust cultivation based on the systematic literature review (Boland et al., 2013).

Number	Factors for establishing trust	Frequency (n=37)	%
1	Investments made by supplier	30	81
2	better information sharing	28	76
3	legal contract between client and supplier	25	68
4	information security processes, tools, procedures and policies	25	68
5	better communication	25	68
6	knowledge sharing	25	68
7	mutual expectations for success	25	68
8	better client and supplier relationship	25	68
9	strict governance through contract SLA	25	68
10	bi-directional information exchanges	24	64
11	cultural bridge	15	40
12	conflict resolution	15	40
13	common values	15	40
14	realistic expectations	15	40
15	working environment	13	35
16	creativity	12	32
17	training programmes	10	27
18	organisation chart development	8	21
19	quality management	8	21
20	future planning	8	21
21	using references	6	16
22	change of control modes exerted by the client	5	14
23	business improvement	5	14
24	a system to monitor cost	5	14
25	eliminating power hierarchy	4	11
26	employees' security and satisfaction	4	11
27	maintaining consistency	4	11
28	corporate intranet for shared understanding	4	11
29	home processes and coordination/control systems establishment at developer site	4	11
30	steering committee meets	4	11
31	measurement charter	4	11
32	change management	4	11
33	anticipated change plan	4	11
34	feedback plan	4	11
35	foundation characteristics	3	8
36	service level objectives	3	8
37	process ownership plan	3	8
38	service level contents	3	8
39	integration activities	2	6

Source: Adapted (with additional literature review) from Niazi et al. (2013, p. 286). The top 6 factors identified through systematic literature review are highlighted in blue.

2.6.7 Consequences of trust

The literature reported three distinct consequences of trust development that are relevant to the current study – uncertainty reduction, rationality and positive expectations (success). These aspects are discussed in this section and critically reviewed from the perspective of IT offshoring relationship.

2.6.7.1 Uncertainty risk

Uncertainty as risk is reflected as the most important feature of trust (Mayer et al., 1995). This perspective of risk is also much prevalent in IT offshoring. While other forms of risks can be well managed with developed risk management models and established industry standard processes, uncertainty risk management is perceived to be more complex.

With the advancement of time, outsourcing takes control of the IT functions, many clients become fearful at the thought that the supplier may take advantage of them (TCE). Particularly, firms that outsource might find themselves at some disadvantage when overall results of outsourcing are unsatisfactory or they are in disagreement with their suppliers. Hence, it becomes difficult to disengage from the contract making money and time spent not so judicious (Naureen et al., 2002).

Mayer et al. (1995) stated that usually no risk is taken in willingness to be vulnerable (in order to trust), though risk is inherent in the behavioural manifestation of the willingness to be vulnerable and applicable in the context of outsourcing. They also state "*there is no need to risk anything at all in order to trust the partner; but one must exercise some risk to engage in a trusting relationship*" (p. 398).

Contrastingly, researchers like Cummings and Bromiley (1996) suggested that a risk taking behaviour and willingness to engage can reflect trust. Further, Luhmann (1988) claimed that understanding of the fact that risk may remain within some acceptable limits, it depends on the organisation as to how to decide based on rational estimation the next course of action. Mayer et al. (1995) also suggest that one may not assume that every risk-taking behaviour will result into trust

development. Also, Gratton (1973) stated, most organisation never experienced the existence of trust in decision-making scenarios challenged by risk.

It is viewed by Gambetta (2000) that trusting means believing the supplier partner in the sense that if offered a chance, the partner is not likely to behave in a way damaging to the client. This view is quite typical in IT offshoring scenarios as most clients and suppliers usually have their own set of interests and some common objectives as well. Hence, it reflects a very valuable point of view stating that the existence of trust in the relationship will lead to minimization of opportunism. This relates to the opportunism aspect of TCE that encompasses uncertainty risk.

2.6.7.2 Positive expectations as Success

Having positive expectations is a distinct feature in various definitions of trust. It is viewed in the literature that clients and suppliers may have some unstated and unwritten expectations. It is not feasible to have all expectations written and covered in the contract that's mutually agreed upon. Liwicki and Bunker (1996) revealed that the hidden expectations are also associated with some hidden risks linked with the actions initiated to realise such expectations, thereby linking it with positive intentions of the parties involved.

The study of Tyler (2003) claim, even though there are evidences of support for the importance of meeting with the expectations realising a trustworthy relationship between the parties, these signals are not an appropriate representation of existence of trust. Further he stated that trustworthiness arises out of moral obligations, in the interest of the success of the engagement, to perform. This is usually done without seeing the reciprocation of the same coming from the other transacting party involved.

2.6.7.3 Rationalities

Both positive expectations and uncertainty are elements of rationality in the context of offshore outsourcing. It is evident from the literature that rationality in actions help generate and inspire trust in relationships (Simon, 1991). Williamson (1993) claimed that trust can also be measured from this angle of likelihood of co-

operative behaviour expected in the future. The existence of rational perspective in outsourcing engagements is quite apparent and visible when a journey starts with a calculated estimation of meeting with the overall success objectives of the engagement (Limerick et al., 2000).

On the other hand, some researchers have debated that success has no linkage with rational perspective and trust. Results from other studies view that rationality and existence of trust are not common in nature. Usually more the rational behaviour less will be existence of trust.

In the context of IT offshoring, it is normally expected that both clients and suppliers are rational in nature (Lacity and Hirschheim, 1993). It is also expected that none of them will damage their common objectives to satisfy their individual interests. In spite of this more than 50% of such engagements fail and therefore Hardin (1993) stated, it is practically difficult to establish a relationship with an unconditional trust assumed between both parties. Hence by linking trust, uncertainty and success as an equation of rationality is considered in this study, represented by a structural relation, between the clients and suppliers in the respective engagements.

In summary, trust affects uncertainty, positive expectations enabled with rationality behaviour (Simon, 1991) induced by trust leading to overall success of the engagement. Trust promotes performance success of the collaborative engagement.

Therefore, based on a systematic literature survey, the current study conducts an investigation into the research question:

What are the consequences of trust in IT offshoring relationship and how are they influenced by trust?

In spite of the established importance of trust, research focusing on relevant determinants and consequences of trust are very few (Mitra, 2006; Khan and Niazi, 2012; Maloni and Carter, 2006). Hence, the researcher decided to highlight and

focus the study on antecedents and consequences of trust, in context of IT offshoring.

This study contributes with an integrative conceptual framework in the context of IT offshoring by analysing the gaps in the existing frameworks coupled with adopting some of the relevant attributes adapted from relevant trust-building studies already available in other disciplines of management and social science.

2.7 Consolidated research questions

To accomplish the first and platform for the second objective (as discussed in chapter 1) of this study, the following three research questions are identified for further examination, through a systematic literature review (Boland et al., 2013) and gap analysis.

1. **What are the critical factors for the overall success of IT offshoring relationship?**
2. **What are the antecedents or determinants (cultivating factors) of trust in IT offshoring relationship and how do they influence trust?**
3. **What are the consequences of trust in IT offshoring relationship and how are they influenced by trust?**

The other two objectives are addressed through an integrative conceptual framework by analysing the gaps in the existing theories and models and identified critical factors (and their inter-relationships) based on systematic literature review of the outsourcing literature. The design and development of the conceptual framework backed with hypotheses development is discussed in the next chapter.

2.8 Summary

Offshore outsourcing is on the increase as a practice and becoming critical to manage efficiently. This chapter reviewed the overall perspective of IT outsourcing and IT offshoring in particular, based on a systematic literature review of prior research and industry reports. It also classified various relevant theoretical perspectives (economic, strategic and social) and their corresponding theories indicating the relevance to IT outsourcing research.

This chapter also focused on the existing research frameworks in this area and identified critical factors to manage success in offshoring engagements. Also it was revealed in the literature that though researchers expressed their opinion on the relationship intensity and management being important in IT outsourcing but there seems to be not enough studies available in this particular domain of IT offshoring. Looking at the industry figures and reports stating a large percentage of IT offshoring engagements failing, the aspect of relationship management between clients and suppliers attracted the attention of this study.

Therefore appropriate research inquiry and questions are formulated to examine the critical factors associated with overall success of IT offshoring engagements which may help finding appropriate structural relationships between the factors. Studying various literature based evidences, the researcher identified the critical factors for establishing success of these engagements are namely: trust, legal contract, information sharing, relationship based investment, information security, minimisation of uncertainty risk to attain an overall engagement success. It also discussed on the positive consequences of trust-building between client and supplier.

The core focus of the study being trust cultivation and consequences of it, appropriate discussions on the overall understanding of trust and its characteristics are taken into account in section 2.6.5 - 2.6.7 and various definitions are presented in Appendix 1.

The systematic literature review helped build a theoretical platform paving the way to the development of an appropriate conceptual framework incorporating the learning from the literature and adapting the best-practices of trust research across various other outsourcing disciplines. The design and development of the conceptual framework is discussed in the next chapter.

Chapter 3: Conceptual Framework and Hypothesis Development

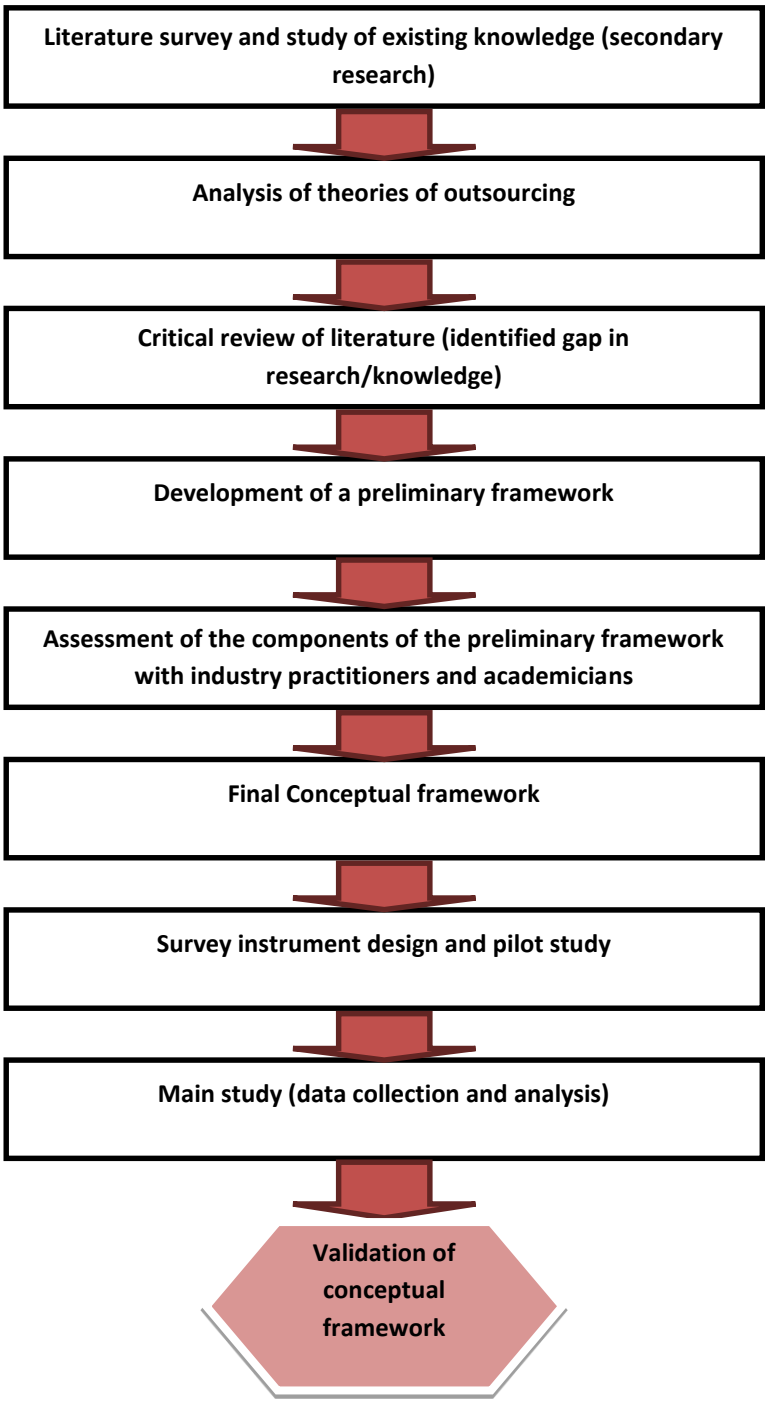
3.1 Introduction

After conducting a detailed and systematic review of the literature (Boland et al., 2013) and a subsequent analysis of various studies conducted in the realm of outsourcing from across various disciplines of management, this chapter focuses on development of a conceptual framework backed with research hypotheses. For this, a detailed literature review of various existing models and frameworks in IT offshoring relationship success behaviour has been undertaken. Based on the systematic literature review and the theoretical background comprising Transaction Cost Economics (TCE), Agency Theory (AT), Resource Based View (RBV), Dynamic Capability (DC), incomplete contract theory, and most importantly the Social Exchange Theory (SET) on which this study is founded, coupled with summarised analysis on the relevance of the previous models/frameworks developed by related studies in outsourcing are presented in section 3.2.

The conceptual framework is developed and discussed in section 3.3. Followed by Section 3.4 enumerates the proposed direct hypothetical relationships between the seven key constructs: legal contract, relationship-specific investment, information/knowledge sharing, information security, trust, uncertainty risk and outsourcing success. This is considered as a preliminary framework, which is further strengthened by feedback from practitioners in the industry. Details of practitioner's feedback are presented in Appendix 2 and 3. Section 3.5 begins with preliminary reviews on the basis of the components of conceptual framework, with 15 senior practitioners in the IT offshoring industry in Europe. Also, this step facilitates context validity and safeguarding against any major disorientation from the reality of clients perspectives on IT offshoring. The process of development of

the conceptual framework is enumerated with a flow diagram and shown in figure 3.1.

Figure 3.1: Flow diagram for the process of conceptual framework development and validation



3.2 Summarised view of theoretical background

A number of outsourcing related theoretical approaches have been critically analysed from the literature in chapter 2.

As per agency theory, contract is considered to be the only basis for managing the relationship in outsourcing, while TCE suggests that the existence of opportunism in outsourcing relationship should be overcome. Both TCE and agency theory aim to arrive at the most appropriate contract between the parties to limit the transaction and agency costs by limiting the opportunistic attitude of the supplier. It may eventually create an issue in emerging contractual relationships as most contracts are incomplete in nature, based on incomplete contract theory. Both RBV and DC theories suggest that an outsourcing organisation should meticulously measure the activities to be outsourced.

Relationship theories explain social and economic exchanges including cooperative interactions as paramount aspect in inter-organisational relationships. Social Exchange Theory analyses various exchange of activities including both intangible and tangible interactions between two or multiple people. The foundation of this study is Social Exchange Theory as it focusses on the inter-organisational relationship and the exchanges that complement the client-supplier relationship.

While each of the theories address some specific aspects in outsourcing like cost, contract, opportunism but these do not independently provide an integrated model identifying the critical factors for success and minimizing various forms of risk when outsourcing. However, this study uses a blended theory approach with Social Exchange Theory as the central theme.

In this study, the identified critical factors for conceptual framework development incorporated necessary elements from these theories and established appropriate theoretical linkages with the identified factors.

3.2.1 Theoretical foundation adapted from related studies

In this section, related studies are analysed.

In the literature though several eminent researchers claim that it is vital to achieve trust for effective relationship management but none explained how to achieve it and factors associated with it. Based on this critical analysis and understanding of gap existing in related studies, this study attempts to identify the trust cultivating critical factors associated with trust development in the context of IT offshoring. The other aspect that has been integrated in this study is the identification of all such critical factors that are relevant for success achievement and their inter-relations with trust, risk and success.

Even though the literature has recommended different approaches towards achieving success in outsourcing like realizing psychological commitments (Koh et al., 2004; Moe et al, 2014; Khan and Niazi, 2012), maintaining partnership quality (Lee and Kim, 1999) and agreeing to tight contracts (Saunders et al., 1997), the known success rate of IT outsourcing is still less than 50 per cent (Susarla et al., 2003). One plausible interpretation is that latest research has not taken into account effects of different critical factors on IT offshoring success.

The current study elaborates by incorporating some of these factors through building an integrated view to conceptual framework development. The framework is developed assimilating necessary contemporary views of legal contracts and other interaction processes (Poppo and Zenger, 2002; Kern and Willcocks, 2000) together with relationship intensity (trust: configured with other related attributes of trust) are the crucial factors affecting the inter-organisational relationship transforming into success (Morgan and Hunt, 1994; Han et al., 2008).

Guided by the principle that intensity of relationship might be influenced by outsourcing method (Han et al., 2008), the researcher decided to examine the effect of the client's trust on the supplier, in the context of offshore IT services perspectives. The practice of IT offshoring has matured over the past 2 decades in terms of quality process maturity: SEI– CMMi (Software Engineering Institute's, Capability Maturity Model- integrated), ISO standards: PMI (Project Management

Institute) standards: for managing complex deliverables, P- CMMi (People Capability Maturity Model- integrated) including Data Management standards. Even though it has matured so much, more than 50% of the engagements either suffer losses or fail (Foote, 2004; Moe et al., 2014). It's also noted that structured relationship management models suitable for IT offshore engagement are not developed yet. So, there are no benchmarks available to measure the relationship intensity or perform any health checks on the overall relationship status.

The researcher also attempted to figure out what ways interaction processes can be pragmatic to cultivate trust, in IT offshoring relationship. Based on the learning and understanding developed from the past studies in outsourcing and various models used, the researcher attempted to summarise these in a single schematic diagram (figure 3.2) depicting various types of relationship focus across time scale.

Figure 3.2: A summarised version of various models available from the past research on outsourcing relationship characteristics between client and supplier.

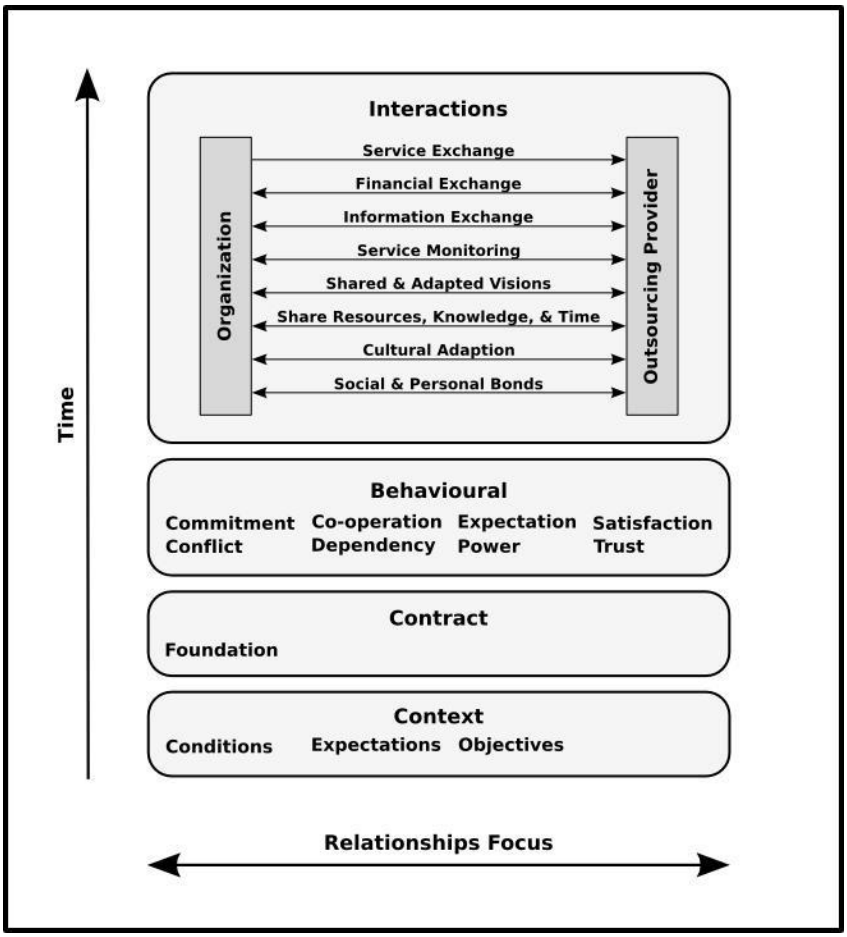


Figure 3.2 illustrates the relationships properties in outsourcing, namely: context, contract, interactions and behavioural dimensions (based on past studies). It also depicts that most relationships in outsourcing are based on the context which is organised in the form of a contract. The two way arrow depicts the interaction taking place between the client and supplier organisation. The dimension of time depicts the relationship development process is based and dependent on a time scale/span of interaction.

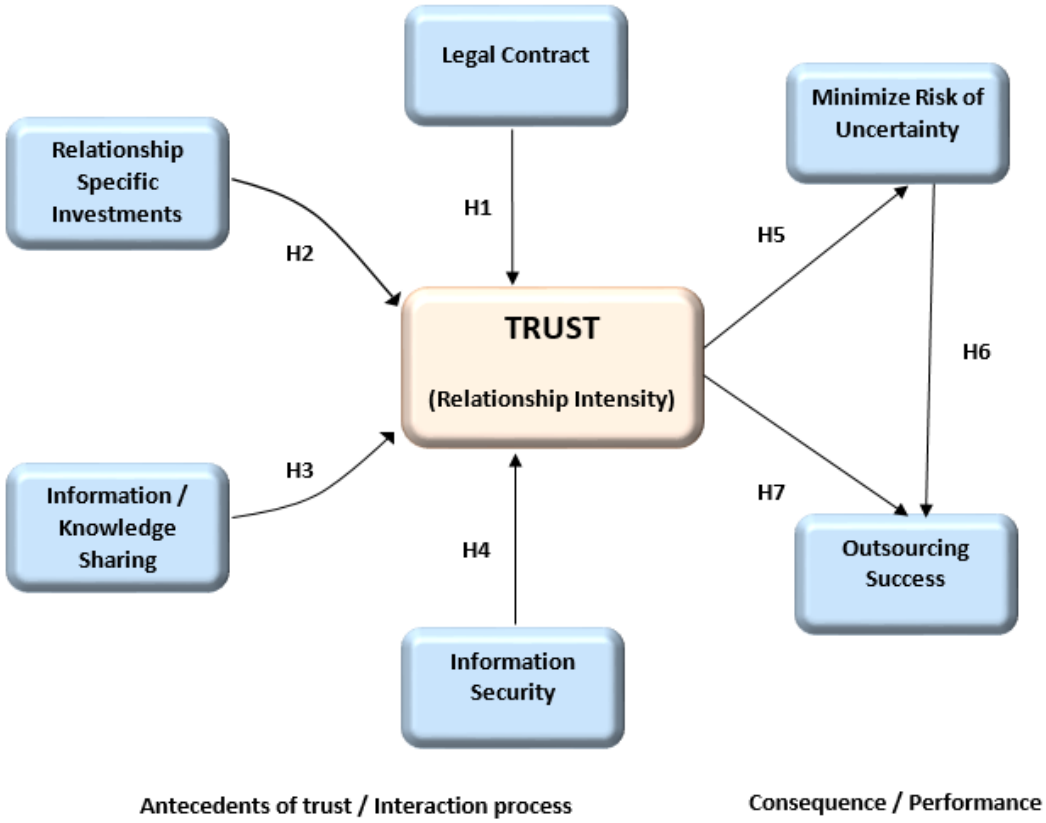
The significance of both the interaction process and relationship intensity has been reflected in this study for the area of IT offshoring based on studies in various other disciplines (Doney and Cannon, 1997; Dyer and Chu, 2011; Endorf, 2004; Dwyer et al., 1987; Kern and Willcocks, 2000; Currie and Willcocks, 1998; Tian et al., 2008; Fatma and Mahjoub, 2013; Lee and Choi, 2011). Hence, this study is adapted from the existing models of relationship management characteristics that emerged from other disciplines of management, economics and social sciences.

The conceptual framework developed in this study (shown in figure 3.3) emphasises the factors which result in a closer relationships between the clients and suppliers thereby achieving an overall success in the relationship outcome. Social exchange theory (SET) has not been used much in order to empirically examine the nature of the IT offshoring client supplier relationship, with the exception of an exploratory study by Kern and Willcocks (2000). Therefore, Social exchange theory is used in this study as the foundation for developing the conceptual framework and examining the client and supplier relationship through the theoretical lens of SET.

3.3 Conceptual framework development

The conceptual framework consists of two halves. The antecedents of trust and consequences of trust are depicted in the first and second half respectively. Figure 3.3 shows the framework, which is assessed further using feedback from industry practitioners (Section 3.5).

Figure 3.3: The Conceptual framework developed



The antecedents of trust (interaction process), left half of the conceptual framework, are the critical factors that may potentially result in cultivating the relationship intensity (trust, combined with its inter-related attributes) measure for an engagement. The consequence (performance) is the result of relationship intensity level in the engagement. The above framework is designed based on systematic literature review (Boland et al., 2013) of outsourcing theories and previous relevant studies across other disciplines. The development logic behind the above framework is discussed in this section in a greater detail.

Literature evidence is available involving various critical factors that are prevalent in the outsourcing domain (Dhar et al., 2004; Earl, 1996; Gertler, 2003; Overby, 2003; Tian et al., 2008). Apart from this, the researcher identified few studies that have addressed several risk factors associated with IT outsourcing and offshoring. Some of the summarised outcomes of this literature review are given below though it has already been discussed in detail in the previous chapter.

If the client organisation trusts the supplier, they are prepared to transfer more assets to them (Tian et al., 2008; Langfield-Smith and Smith, 2003). Tight collaboration often manages to safeguard relationship-specific investment (Williamson, 1985). There are other important factors affecting trust between organisations engaged in outsourcing like information sharing and knowledge transfer (Heeks et al., 2001; Heide and John, 1992) and providing security to client's information/data has a positive influence on trust (Jurison, 1995; Endorf, 2004). Khalfan (2004) argues that information security threats have been concerning the clients for long and posed as a crucial risk towards loss of control.

Therefore, keeping all the above critical factors in this research study, the conceptual framework is developed using 'trust' as the central theme for engagement success.

3.3.1 Antecedent of trust

The factor of trust affects all stake holders of the engagement across clients and suppliers; therefore, it is crucial for the decision makers to recognize the relevant antecedents of trust in the system (Ross et al., 2007). Normally, trust cultivation hinges on the impression of the trustor regarding the intentions and behaviour of the trustee. Doney and Cannon (1997) suggested the following processes types that can help develop trust in a business and commercial relationship. The following are the various categories of these processes:

- Process Category-1 (Calculation based): Benefits and costs associated with untrustworthy behaviour of a party.
- Process Category-2 (Predictability based): Development of confidence through forecasting of the party's behaviour based on repeat and long lasting experience.
- Process Category-3 (Competence based): Estimation of promise fulfilment by the other party.
- Process Category-4 (Intention based): Evaluation of concerns for the other party.

- Process Category-5 (Transfer based): Based on credibility of information trust is developed and transferred in favour of the other involved party in the exchange.

The same way, in the literature of marketing, various perspectives for examination of trust determinants were suggested by Dyer and Chu (2011):

- Economic: Comparable to calculative and that trust development is based on commitment level of the partner and how credible it is.
- Social: Trust development is based on social exchange between the partners.
- Process: Trust development being based on standard processes being followed by the partner and hence establishes the reliability of the exchange as well.

Based on adaptations of proposed frameworks of Doney and Cannon (1997), Dyer and Chu (2011), Tian et al., 2008 and Endorf (2004), the present study incorporated three critical factors in the conceptual framework are: information security, relationship-specific investment and information/knowledge sharing. The critical factor, legal contract and its relationship with trust is adapted from models suggested by Barthélemy and Geyer (2005); Kern and Willcocks (2000); Currie and Willcocks (1998) and Lee (1996).

Based on the collective view of relationship intensity, the construct on trust in the conceptual framework is configured with its theoretically inter correlated attributes of relationship intensity characteristics namely: commitment, loyalty, dependency, reliability, sincerity, fairness, co-operation, collaboration and other variants of trust, into a single construct, to signify the relationship intensity (Doney and Cannon, 1997; Ganesan, 1994; Anderson and Weitz, 1989; Morgan and Hunt, 1994; Das and Teng 2001; Dyer and Chu, 2011; Kennedy et al., 2001). These related attributes have also been accordingly incorporated as measurement items in the survey instrument (Appendix 4) for the empirical study.

All these critical factors and their relationship with trust are discussed in sections 3.4 and 3.5 (supplemented by Appendix 2, 3 and 4). The measuring items for these critical factors (constructs) and their adaptations from literature are discussed in detail in chapter 4 (section 4.7).

3.3.2 Consequences of trust

Prior research identified that, greater level of trust produced higher levels of shared actions and better cooperation with the exchange partners. Furthermore, character of trust as studied by Jap and Anderson (2003) reflect in safeguarding inter-organisational performance and continuity under ex post opportunism in the field of management science. Therefore their study elaborated on opportunism that may exist while trust is developed between interacting organisations. The empirical evidence from literature also reveals that the presence of trust induces a flexible relational governance structure (Arrow, 1972).

Zaheer and Venkatraman (1995) claimed that the possibility of performance satisfaction is enhanced by reducing uncertainty based on the enhancement of effectiveness that can be induced by building certain type of trust in the relationship of outsourcing.

A primary concern, hence, for researchers is the right way to manage the uncertainties of outsourced IT activities (McFarlan, 1981; Zmud, 1980; Wallace et al., 2004) popularly known as management and identification of risk. A particular aspect of information systems research discusses management of risk associated with success in outsourcing. Other studies identified that there is a relationship between risk and success from a contingency standpoint (Nidumolu, 1995; Jiang et al., 2006; Barki et al., 2001). The contingency approach recognises that outsourcing success as to how effectively the engagement in totality is adept to tackle the uncertainties in the working atmosphere. Except a few like Barki et al. (2001), not many studied contingency aspects of IT outsourcing relating uncertainty risk as an integrated view of risk management.

Therefore based on the importance and relevance of uncertainty risk, this study considered uncertainty risk as a critical factor for achieving success in IT offshoring

context considering that contracts are incomplete in nature, opportunism may arise in a client-supplier relationship managed from distance and there maybe possibilities of unpredictable risks dues different socio-political-cultural dimension in the supplier country. Therefore, this critical factor was considered as there may not be any predefined process or mechanism available to address these types of risks, while there are matured models available for capturing and managing other risk factors like operational, financial, market, reputation and HR.

Additionally, majority of the earlier studies emphasise internal IT practice, where IT service suppliers and clients are primarily the stakeholders of the same organisation (Chou and Chou, 2011). Nonetheless, these days most organisations are outsourcing all or part of their IT functions to the external suppliers in another country (Lacity and Willcocks, 1998). Hence, outsourcing engagements probably increases varied and uncertain risk elements from the standpoints of the supplier as well as the client (Taylor, 2007). In offshore outsourcing scenario, supplier and client jointly undertake the responsibilities towards managing activities. Since both outsourcing clients and suppliers absorb substantial risk of uncertainties (Dey et al., 2007), an integrated framework development may help managing such risks in IT offshoring.

In spite of this, earlier research on risk management within IT outsourcing has not given much attention to this viewpoint (Taylor, 2007). The client and supplier engaged in offshoring relationship may have varied perceptions in the area of risk and its management methods due to diversity of objectives and operational style. Consequently, contingency relationship present in earlier studies requires investigation to help identify whether they relate to IT offshoring engagements from the perspective of client-supplier. Hence, this conceptual framework is attempted at initiating the first step towards an integrative relationship to help identify the effects of uncertainty risk and its significance on the overall performance or success of such engagements.

There are some empirical studies available in the literature on project risk management related to IT outsourcing. However, most of them tend to focus on

factors that are operations or process related, like user satisfaction and user involvement (Jiang et al., 2006), volatility of process and user coordination mechanisms (Nidumolu, 1995). However, there is not much research evidence available on the aspect of uncertainty risk minimization.

Furthermore, an outsourced IT engagement's comprehensive degree of risk or uncertainty can be achieved through assessing all relevant risk elements (Jiang et al., 2006; Barki et al., 2001). Many researchers recommended several risk factors or uncertainty factors that can endanger success of an engagement (Schmidt et al., 2001; Alter and Ginzberg, 1978; Lihong et al., 2008; Nakatsu and Iacovou, 2009). Following the above literature evidences, the researcher considered minimisation of uncertainty risk as a consequence of trust and it is built into the conceptual framework as one of the constructs.

As compared to in-house IT practices, outsourcing might increase different uncertainty risks for clients and suppliers from human resources angle (Taylor, 2007). However, the available literature on IT outsourcing has recognised uncertainty risk as a key construct affecting success (Wallace et al., 2004; Jiang et al., 2006). Hence, uncertainty risk is also related to the overall outsourcing success (another construct – as discussed in the previous chapter) and depicted in the conceptual framework as an indirect effect of trust to achieve success.

Subsequently, the relationship between IT outsourcing partners necessitates elimination or minimisation of uncertainties through both parties to be able to achieve their common goals through overall outsourcing success. In the absence of this relationship, the consecutive transactions tend to be delicate and weak (Kwon and Suh, 2005).

Trust is identified as a critical factor towards the betterment and success of inter-organisational alliance (Anderson and Weitz, 1989). Literature on IT outsourcing studies also established such evidences, i.e. trust has a positive and significant influence on overall outsourcing success (Grover et al., 1996; Lee and Kim, 1999). As per literature, success is reflected by the amount the planned objectives are realised.

In several IT offshoring engagements, the objectives relate to the economic, strategic and technological benefits. Therefore, the success of outsourcing may be determined by the attainment of above benefits (Loh and Venkatraman, 1992). An outsourcing relationship relied upon mutual trust can create a competitive gain by successful accomplishment of these predefined objectives (Konsynski and McFarlan, 1990). Particularly, trust has various beneficial impacts in outsourcing relationship success. Building up of trust in relationship reduces risks: organisational, financial and technological risks- that are linked with the outsourcing engagement (Sabherwal, 1999). Thus, trust causes a stable, reliable, and high-performing outsourced IT exchange, that leads to overall success.

Based on above reasoning and literature evidence, the researcher incorporated these two constructs (uncertainty risk and success) in the conceptual framework as consequences of trust. As illustrated in figure 3.3, these three constructs of the conceptual framework developed have a triangular relationship and a similar structure has been noticed in previous studies (Lee et al., 1999) involving other constructs.

3.4 Research hypotheses development

The literature review forming the background of hypothesis development is discussed in this section.

3.4.1 Antecedents of trust

Trust antecedents (determinants) are identified as per section 3.3.1 and depicted in the conceptual framework (figure 3.3) is further hypothesised on the basis of literature review and critical analysis of previous studies, as follows.

3.4.1.1 Legal contract

Lee (1996) and Currie and Willcocks (1998) claim, in an outsourcing engagement, risk of failure is enhanced with a loose contract, while most expectations can be achieved with a tight contract. Hackney and Hancox (2000) view, relationships thriving on loose contracts are more likely to fail and that 80% clients felt they

should have had executed a more tightly structured contracts. The written contract is the key document for enumerating scope, price, expectations, support and liability of both parties providing guidelines for conduct and contract management (Hackney and Hancox, 2000; Dames and Wittgreffe, 2005). Further, Barthélemy and Geyer (2005) recommend that in order to protect client interest against loss of control a tightly defined contract is a vital instrument.

The legal contract factor is aligned with agency theory propagating contract being the foundation of managing a client-supplier relationship. The emphasis of agency theory was originally based on the affiliation between managers and stakeholders (Jensen and Meckling, 1976), but these days it is used to elucidate the relationship between two partners or exchange firms. Based on this, the researcher links agency theory with understanding of the relationship between the client and supplier. The sources of agency problems are adverse and selection of moral hazards (Arrow, 1985) could be resolved by monitoring and control (Barney, 1991).

Elaborating Poppo and Zenger's (2002) view, well specified formal contracts endorse increased long-term, cooperative, trusting relationships. Also, Lee (1996, p. 16) states that, "*contract comprises of agreements on staffing, pricing, service level, transfer of assets, intellectual property matters,, termination, dispute resolution mechanism, information security, warranty, payment terms and liability*". Besides all the above, scope of the outsourced activities, level of performance expectations, time scale for availability of service are specified in service level agreements (SLA). Koh et al. (2004) state "*the measure of fulfilment of responsibilities distinguishes successful and unsuccessful nature of engagements*" (p. 356).

Previous studies have identified, SLA safeguards the initial and vulnerable phases of IT outsourcing initiatives are fruitful (Singleton et al., 1988). Further, Goo et al. (2006) identified that the overall structure of contractual matters in SLA could be significant in managing IT outsourcing relationships and it may eventually develop a trustworthy relationship between the client and supplier.

Furthermore, *"Deterrence-based trust" (Appendix 1)*, a variant of trust that is primarily based on the calculation of rewards and penalties. Study conducted by

Shapiro et al. (1992) reported on this form of trust is based on positive behavioural consistency the transacting partners exhibit that they had agreed upon. This is primarily based on the fear factor of the consequences of failure.

Agency Theory also supports the adherence to legal contract to have improved control on the supplier. Eventually it helps build client-supplier rapport through reward-penalty mechanisms and viewed as a trust enabling mechanism through a regular practice of following written code of conduct.

Therefore, based on several prior research like Goo et al.'s (2006) operational contracts, Shapiro et al.'s (1992) deterrence-based trust combined with KPI and SLA (agency theory), the current study empirically tests the effect of legal contracts on cultivation of trust in IT offshoring relationship. Therefore, the following hypothesis is proposed:

H1: A well framed, scoped and mutually agreeable contract has a positive and significant effect on the overall trust in IT offshoring relationship.

3.4.1.2 Relationship-specific investments

These are the investments made in a specific relationship that are of much reduced value if put into an alternative engagement (Heide and John, 1988). Usually closely held partnerships advance to provide safeguard to relationship-specific investment made (Williamson, 1985) as these investments (idiosyncratic) transforms the incentive structure of the firm making the idiosyncratic resources lose significant value lest the relationship is sustained longer (Anderson and Weitz, 1992). Organisations deciding on these investments are less likely to engage in unreliable and opportunistic behaviour endangering the basis of the relationship. This is because, if the relationship terminates then all idiosyncratic resources convert as dead investments.

Therefore, it can be anticipated that if a partner invests specific into the relationship there is a high probability that the organisation intends to continue long-term thereby chances of relationship lock-in is enhanced in a positive sense

(Lindskold, 1978). Thus consent to make investments specific to the relationship by the supplier signals an evidence of their trustworthiness.

This investment aspect is adequately sustained by the parameter of asset specificity discussed in the theory of TCE (Williamson, 1985) relating to human asset specificity, site specificity or physical asset specificity. Consequently, close collaboration often develop trust between the parties to safeguard relationship-specific investment (Williamson, 1985). Subsequently, if a client trusts the outsourcing supplier, they are willing to transfer more assets to them (Langfield-Smith and Smith, 2003).

As per TCE, one of the most prominent transaction features is asset specificity. During 1980s, studies conducted examining if asset specificity develops a positive effect towards vertical integration of a firm. Monteverde and David (1982) identified, highly specialised processes in automobile sector are usually vertically integrated, as compared to simple processes. Hence, the degree of asset specificity may differ from one industry to another making outsourcing or offshoring practice more complex or infeasible for a particular industry sector. Such fallouts to outsourcing initiatives were realised by Tian et al., (2008); Joskow (1990), Roodhooft and Warlop (1999); Barthélemy and Quélin (2006) and Hennart (1988) for some more industry sectors as well. On the contrary, Murray and Kotabe (1999) emphasised on positive relationship with human capital asset specificity and the resulting outsourcing relationship enhancement. Also, Aubert et al. (2004) found relationship based asset specificity usually quite positively related to outsourcing.

Ganesan (1994) recommended, client develop trusts when they see their supplier making idiosyncratic investments in the relationship. Cheng (2001) identified, measure of trust may be linked to the scale of such investments. It was also demonstrated within the supply chain partners that such investments are strongly and positively linked with trust development (Suh and Kwon, 2006; Kwon and Suh 2005).

Based on the above understanding the following hypothesis is proposed:

H2*:* Relationship-specific investments have a positive and significant effect on the overall trust in IT offshoring relationship.

3.4.1.3 Information and knowledge sharing

Heide and John (1988) stated, it is critical that all concerned parties share information voluntarily and wholeheartedly in an outsourcing relationship. Particularly this is quite crucial when clients and suppliers are situated in different geographical locations making it a critical factor for building trust between them (Ross et al., 2007). This is considered to be an an efficient tool for managing a business relationship. Having a structured information sharing practice enabling the stakeholders act on them timely and effectively is a necessity and the absence of it makes the engagement vulnerable to performance deterioration (Kwon and Suh, 2005; Kuo et al., 2005).

Presence of information asymmetry may be curtailed by effective Information sharing practice. It also enhances the decision transparencies thereby lowering behavioural uncertainty of partner. It can help develop higher levels of trust (Dyer and Chu, 2011). Along with improved confidence, decision transparency and credibility, lowering opportunistic behaviour thereby emphasising on developing partner sincerity, honesty and integrity. The preparedness to share information towards the benefit of the partnership fulfils benevolence and continued interest of partner (Doney and Cannon, 1997).

Literature revealed two type of knowledge (tactic and explicit) in knowledge management domain. Nonaka and Takeuchi (1995) defined tactic knowledge as personal in nature and hard to formalise making it difficult to share. On the other hand the explicit knowledge can be codified and transmitted in a formal systematic way. Furthermore, Willett (2002) and Lee and Kim (1999) defined another form of knowledge called the shared knowledge. This form of knowledge is an extension of explicit knowledge related to proprietary information sharing between the partners. Hence, greater attention is given as to how firms learn from the partners to mature innovative competencies through partner alliances.

Crofts and Swatman (2002) confirm, outsourcing may lead to organizational knowledge loss. On the other hand, when information is not shared between the partners, a sudden non-transparent demand patterns may cause demand enhancement. Eventually this may lead to frequent stock-outs, high inventories, and inadequate service levels (Lee et al., 1997). Hence, firms will incline to collaborate towards building long-term relationships when facing with such uncertainty.

A significant linkage between information sharing and trust in a buyer-seller relationship was established by Doney and Cannon (1997). Also, Kwon and Suh (2005) identified that information sharing could significantly decrease potential opportunism and behavioural uncertainty attributing to the increase of level of trust between the exchange partners.

TCE is focussed onto the costs associated with carrying out exchange among the entities, while Resource-Based View (RBV) of a firm emphasises those factors that enable firms to enhance a competitive advantage. These factors, information and knowledge sharing, has a direct relationship with RBV theory. According to RBV theory, knowledge-based resources provide definite source of competitive advantage as these are unique to the company, culturally embedded and difficult to copy (O'Dell and Grayson, 1998; Foss, 1996; Barney, 2007; Teece, 1998). It is thus necessary to empirically investigate if people effectively share information and knowledge within an outsourcing engagement and its implications on trust development.

Theoretically knowledge sharing is considered closely correlated to information sharing and thus considered as a single construct or factor in the dimensions of alliance quality affecting relationship intensity (trust, in this study).

Therefore, the following hypothesis is proposed:

H3: Information and Knowledge sharing by the supplier have a positive and significant effect on the overall trust in IT offshoring relationship.

3.4.1.4 Information security

Information security can be explained from three perspectives (Peterson, 2002):

1. Integrity (collecting and managing accurate information without any mischievous modification);
2. Availability (easy availability and access of the information all the time)
3. Confidentiality (preventing leakage to unauthorised persons).

If clients perceive information security from a data protection perspective under the outsourcing process, it is crucial to develop a very high level of trust with the contractual parties (Whitman and Mattord, 2008). Several instances of hacking of data reveal the weakness in current information technology systems, not only of the software but also the users.

Due to this, there is a need to provide improved security for these systems. In today's world, outsourcing suppliers should be able to protect both their own and client's information. The IT outsourcing client's information can be related to the proprietary methods/processes, customer lists, financial information, business plans and other personal information (e.g. employee or customer records).

However, in the process of negotiating outsourcing contracts, a fixed amount organisational data requires to be disclosed or be accessible by IT outsourcing suppliers. Regarding this, research has shown that one of the major disadvantages of outsourcing is data security (Shittu and Adedokun-Shittu, 2011).

From the theoretical perspective, Dynamic Capabilities (DC) permit easy identification of best practice that may be acquired or transferred by resource-based capabilities over a period of time. Information security is a growing issue in any organisation as it regularly needs to improve its IT systems to safeguard against new viruses and hackers, making DC view fitting very well with this construct. Evolving the present resource base can add value, as alone DC has no value (Killen and Hunt, 2010). DC is emphasised to be an extension of RBV and its capacity to be able to re-configure the company's routines and resources in the path considered and conceived by the main stakeholder (Helfat and Peteraf, 2009).

In this regard, dynamic means change and capabilities means its ability to adapt to the changing environment (Winter, 2003). Also, modifying its resource base facilitates it to respond effectively to the changing environment (Killen, 2008). For generating competitive advantages, organisations adopt learning patterns or routine activities which consistently generate and change its operating routines for beneficial results (Zollo and Winter, 2002).

Greater transparency in relationship (client-supplier) can be established with demonstrability of results and actions associated with confidentiality of shared information. As a result this can help establish and maintaining trust between the parties. Development of mutual trust and information security were considered as the foundations of IT outsourcing success particularly among the SMEs, though large organisations consider information security and mutual trust as a ladder to organisational success (Shittu et al., 2012). Transparency is often used with confidentiality or security of shared information in the offshoring engagement (Lander et al., 2004). In the current study, confidentiality is considered as safeguarding client's data, information and knowledge (Schneier, 2002).

To be able to cultivate trust in IT offshoring relationships, one should be able to appreciate as to how security issues disturb the client organisation(s) combined with their high dependence on the suppliers' information security practices. Can the organisation trust the supplier while transferring sensitive business information? It is classified into administrative security and technical security (Pfleeger and Pfleeger, 2003; SIG Security, 1999). While the former refers to a particular organisation including employees, the procedures for structuring various levels of security protection; the latter refers to technical infrastructure and data security coupled with its access mechanisms.

As information security is managed internally within the IT offshoring engagement, client needs to develop suitable agreement with the supplier regarding the information security practices to adhere to. The important aspect for the client is to continuously assess if supplier has adequate information security processes established apart from best-practice security policy applicable to employees of the

organisation (Khalfan, 2004). Security is an important pillar of trust development and it is a key factor in continuing with outsourcing relationship (Luor et al., 2008).

Therefore, the following hypothesis is proposed:

H4: Information security has a positive and significant effect on the overall trust in IT offshoring relationship.

3.4.2 Consequences of trust

The consequences of trust as identified in section 3.3.2 and as depicted in the conceptual framework (figure 3.3) are further hypothesised on the backdrop of literature and critical analysis of previous studies. As per the conceptual framework, the consequences of trust are depicted as a triangular inter-related relationship between trust, uncertainty and success; these three hypotheses are discussed next.

3.4.2.1 Trust, minimising uncertainty risk and success

Various literature views on trust are presented in the earlier chapter. Dyer and Chu's (2011, p. 259) view of trust is "*one party's confidence that the other party in the exchange relationship will not take advantage of its vulnerability*". Doney and Cannon's (1997, p. 36) view of trust is "*the perceived credibility and benevolence of a target of trust*". Both definitions embrace some aspects of dependency and risk. Also, both definitions refer the perceived nature of the trustee while determining trustor's level of trust. Common trustee characteristics present in all definitions are integrity and benevolence in the literature.

Moreover, it has been evident that offshoring and virtual collaborations are responsive to adaptability, cultural sensitivity and flexibility combined with awareness of risks associated with cultural diversity (Luo, 2002). However, there is a positive angle to this in terms of globalisation being leveraged as a competitive strategy, provided it is managed effectively. Based on globalisation trend becoming most prevalent, particularly in IT, Siaka et al. (2006) identified trust as an inevitable critical success factor. Trust is also referred as the confidence or faith to believe in what was promised will be done (Tristan, 2007).

Trust has correlation with established relationship theories that recommend social and economic exchanges including cooperative interactions as paramount aspects in inter-organisational relationships. Klepper (1995) and Kern (1997) asserted that organisations should establish that the outcomes of an exchange agreement between parties would be higher than what could be realised through an alternative forms of exchange or with another partner. Additionally, Social Exchange Theory (SET) concentrates on various types of relationship that are present between organisations, individuals and groups. In respect of outsourcing research, social theories are primarily needed to explain partnership relations between clients and suppliers (Klepper, 1994), where the client-supplier relationship emerges as a series of dynamic processes occurring in specific, sequential interactions when two participants work collaboratively and exchange valuable resources (Teng et al., 1995).

Hence, trust becomes important in the context of overall relationship intensity, exchange/transaction behaviour and decision-making process. In the absence of trust and without any such relationship intensity, the entire strategy of outsourcing may turn out to be unreasonable (Cohen and Young, 2006). Every IT outsourcing or offshoring relationship consists of some components of mutually agreed contractual arrangements and requirements of increasingly complex coordination (Lumsden and MacKay, 2006) to successfully execute a contract in today's vigorous commercial environment.

A problematic aspect about trust in IT outsourcing/offshoring is its reliance on informal interactions between the involved parties in relationship. Siaka et al. (2006) identified in their study, trust is slowly built through sharing information on stakeholders' attitudes and behaviours. Another study of Cohen and Young (2006) stated, clients form impression on trustworthiness of supplier based on having continued positive productive communication with each other.

Huynh et al. (2003) and Hackney and Hancox (2000) revealed, a mutually agreed engagement model not only develops trust but also manages to prevent risks when dealing with an IT outsourcing supplier. Moreover Lacity and Willcocks (1999)

defined, ‘risk’ as possibility of incurring loss due to uncertainty. This definition of risk is considered in the conceptual framework as ‘uncertainty risk’. Goles and Chin (2005) feel that there should be flexibility based on trust due to the aspect of uncertainty involved in IT outsourcing. In order to do so, an option of rollover could be incorporated to provide flexibility and yet achieve the objectives (Currie and Willcocks 1998; Goles and Chin, 2005; Cullen et al., 2005). Defined by several authors (Siaka et al., 2006; Tristan, 2007), IT outsourcing/offshoring reveals that it has uncertainties and risks arising from delegation of responsibilities to the supplier. Therefore, it necessitates the client to establish trust on the supplier.

Furthermore, TCE asserts that functions which are uncertain, it is difficult to use specific assets types and measure performance leading to greater chances of contractual problems (Williamson, 1985).

Roman and Lopez (2007) viewed trust as key aspect in any engagement that deals with uncertainty about the future behaviour of members in the relationship. Dwyer et al. (1987) and Lee et al. (2008) recommend, both parties must value and nurture the trust based-relationship so that together they can resolve any sudden emergence of uncertainties in the engagement in critical areas like HR, market, technology and financial uncertainties as well.

Therefore, the following hypothesis is proposed:

H5: Trust has a positive and significant effect on minimising uncertainties in IT offshoring relationship.

Williamson (1985) asserts, uncertainty escalates the transaction cost. It increases especially for asset-specific investments, under uncertain environments (Hirschheim and Lacity, 1993). When applying TCE in this study, it’s evident that transaction costs plays an essential part in the decision-making procedure and thus lessens uncertainty in delivery. Additionally, threat from uncertainty is a risk for outsourcing success that requires minimising with the presence of contracts and trust (Williamson, 1985).

Other studies recommend, uncertainty in outsourcing deters with a contract that is for a long-term (Cullen et al., 2000). This type of contract helps clients determine certainty of the supplier organisation and enables the supplier develops mutual trust with the client. Also, Dibbern et al. (2004) identified that longer duration contracts aim to stabilise operations leading to predictable preparation while organisation performance status is improved. On the other hand, a short duration contract reduces uncertainty risk and may lead to improve the engagement success outcome.

Risk management is extensively researched in various disciplines, such as Economics Healthcare, Finance, Engineering, Insurance and Operations Research. These disciplines have their own ways of examining and understanding risks. Following enumerates the risks perspectives along with the literature standpoints.

Various definitions of risk are available in the literature, some of which are:

a. Risk as a probability function (Bahli and Rivard, 2003): In literature of some disciplines, risk is defined as the probability of an event. It is the chance of some serious negative or adverse outcome
b. Risk as a variance (Levine, 2000): In the finance discipline, risk is computed as the difference of the distribution of outcomes. Risk is viewed as the volatility of a portfolio's value. The extent of the variability in results (whether positive or negative) is the measure of risk.
c. Risk as expected loss (Bowers et al., 1986): In casualty insurance domain, risk is interpreted as expected loss, which is the product of a loss function and a probability function.
d. Risk as an undesirable event (Levin and Schneider, 1997, p. 38): states that, "*risk is events that represent a material threat to an entity's fortune*."

Apart from the above, various other studies claim that the risk factors that are most prevalent in IT offshoring (Overby, 2003; Dhar and Balakrishnan, 2006; Jurison, 1995; Earl, 1996). In this study, the researcher focused specifically on risk factors that are related to uncertainties (Williamson, 1985) and sensitive to global IT offshoring. If the requirements or costs related with a function are uncertain, the

party may be challenged with complying with the commercial contract/agreement (Willcocks et al., 1999). As a result, the supplier may demand more to absorb the extra risk associated with such transactions. In addition to extra demands, other challenges are likely to emerge with such agreements in the engagement (Laabs, 1993).

Outlining the literature analysis, Hui and Beath (2002) reported the existence of some broadly accepted success construct in the context of IT offshoring. Also, Kim and Chung (2003) recommended that with regard to IT offshoring there appears to be an absence of consensus on success and its measure. In spite of this, other definitions of success provided in the literature demonstrated that there may be approaches leading to uniformity of measurement. As per Lee and Kim (2003; p. 4) outsourcing success is defined as "*the level of fitness between the client requirements and outsourcing results delivered by the supplier*". Their study further supported the recommendations of Lacity and Willcocks (2001; p. 6) that stated outsourcing is successful if "*the outcome of the outsourcing decisions meets expectations of both parties*". The above interpretation is analogous to the proposition of Misra (2004), *"success means both outsourcer/client organisation and the supplier organisation achieve their objectives".*

For evaluating IT offshore outsourcing strategies, specific set of success evaluation methods are needed to enable an outsourcing strategy to be well assessed and accomplishing possibility to compare with other types of outsourcing strategies. Also, Grover et al. (1996) devised an instrument to measure success built on the survey results of top IT executives in 188 clients in the USA. The survey included ten items classified into three categories: economic benefits, strategic benefits and technological benefits. Further, Grover et al's. (1996) instrument was tested by Rouse et al. (2001) based on confirmatory factor analysis with covariance structure modelling revealing multidimensionality of outsourcing success, including client satisfaction as one of the major outcomes. In this study, client satisfaction and meeting with their objectives are therefore is considered as the parameters to measure success.

If nature of the engagement is realised to be uncertain there may exist issues to outsource the function successfully and effectively, at a fair price linked with long duration contract (Kremic et al., 2006). Higher uncertainty will make it additionally difficult to define the exact requirements, measure performance and expectations (Downey, 1995).

Therefore, the following hypothesis is proposed:

H6: Minimising uncertainty risk has a positive and significant effect on IT offshoring success.

Trust is a paramount aspect to the overall success of the relationship as it encourages parties involved in daily operations to preserve relationship-specific investments made by the exchange partners thereby refusing to lucrative short-term gains in light of long-term benefits. Thus, when this factor is evidently apparent in the relationship, it can result in outcomes improving effectiveness efficiency and productivity (Kim and Chung, 2003).

Based on Das and Teng's (1998) study, trust enhances the relationship between client firms and their supplier firms to whom it sources a task or a business function. As enumerated in section 3.3.1, to cultivate trust between the two parties, information exchange plays a vital role to make both feel closely tied together. Therefore, eventually possibility of opportunistic behaviour is decreased facilitating the accomplishments beneficial to both parties.

Based on above analysis of existing research outcomes and logically connecting them in the context of IT offshoring, following hypothesis is developed:

H7: Trust has a positive and significant effect on IT offshoring success.

Thus seven hypotheses have been developed in this research based on the conceptual framework. In this study, the identified critical factors for conceptual framework development considered the appropriate theoretical linkages. For example legal contract has a direct link with AT, relationship specific investment and uncertainty risk have links with TCE, information and knowledge sharing has

link with RBV, information security can be associated with DC, the central construct trust is founded on SET and uncertainty risk is linked with TCE.

However, prior to validating the framework, an assessment of this framework by industry practitioners has been attempted. Details are discussed in the next section.

3.5 Preliminary assessment of the conceptual framework with industry practitioners in Europe

As this study is oriented towards knowledge contribution in terms of IT offshoring relationship development between client and supplier, its potential application is expected to be realised by IT outsourcing researchers and practitioners. Therefore, the basis of the conceptual framework design is initially assessed by industry practitioners as well, thereby establishing context reliability and validity.

3.5.1 Rationale

The purpose of the study is that the audience (the IT offshoring clients) would use this conceptual framework as a reference point to help improve the rate of success for their IT offshoring engagement(s). To establish the context reliability and validity, the researcher carried out an initial assessment of the critical factors as realised and experienced by the IT offshoring practitioners in Europe. Also, this assessment avoids the chances of missing out on any critical factor(s) in the conceptual framework and conducting the main study from the point of view of not only theoretical perspectives but also from the practical /real-life application.

Interestingly, some of the assessment comments matched the view of considering 'trust' as 'relationship intensity' comprising of attributes like commitment, reliability, dependency, loyalty and sincerity etc. (as included in Appendix 3). Hence the assessment proved beneficial in validating the core concept of the conceptual framework and the factors under consideration. This preliminary assessment raised the confidence level of the researcher and the study. Based on the literature combined with the practitioner's viewpoints, appropriate items measuring trust were considered in the research instrument used in study (Appendix 4).

A majority of the industry practitioners participated in the pilot study for the content validity of the survey (questionnaire) used for this study. However, they did not participate in the main study survey. Further details on the research design and measurement methods used are discussed in the next chapter.

In this process, the researcher looked at only those factors that were not quite obvious and as expressed by the industry practitioners (Appendix 3).

The researcher approached 15 industry practitioners in Europe, in October 2013, representing some of the large financial services, insurance, technology and telecom firms who have gone through at least five years of IT offshoring experience and whose annual spend in IT offshoring is more than $1 million. The names of the client firms are listed (along with their comments) in Appendix 2. The names of the respondents are not listed as they preferred to be anonymous. Some comments talked about multiple factors and therefore the assessment is done taking all the factors into consideration that emerged from the practitioner's comments. Hence, the total number of comments assessed is more than the number of individual comment made.

After this, the researcher consolidated the comments and grouped them into various categories (Appendix 3), in relation to the constructs of the conceptual framework, to check if the conceptual framework developed is also in line with the practitioners and also as per the literature review conducted.

As an overall outcome of the assessment of the conceptual framework by practitioners, it is concluded that they supported all the elements of the conceptual framework constructs.

3.6 Summary

This chapter discussed on the overall structure of the conceptual framework and the analysis of various components considered in it, based on literature review. This chapter also elaborated the importance and relevance for adopting some specific critical factors for the study. The development of the conceptual framework emerged from knowledge derived from the literature review, reviews with academics and preliminary assessment with the industry practitioners for context reliability and validity purposes. This knowledge was synthesised, indicating the logic and the flow of the reciprocal relations between the different constructs with hypothesis development linking the relevant theories of outsourcing and the identified the research questions.

Based on the conceptual framework and hypothesis developed, an empirical investigation is conducted to validate it. The research methodology adopted for this study is discussed in the next chapter.

Chapter 4: Research Methodology

4.1 Introduction

This chapter enumerates the rationale behind adopting appropriate approach and methodology to conduct this study. Deciding on a particular approach, methodology and the relevant procedure for collecting data followed by choosing a suitable analysis technique, forms the basis for emergence of an overall viewpoint determining the outcome of the research. Section 4.2 discusses the research paradigm from the philosophy aspect of positivist philosophy and deductive approach. Section 4.3 discusses the methodological choice used in the research design like qualitative and quantitative research and explaining the reason for the use of the quantitative method for this study. Section 4.4 illustrates research design followed including the agreement on a research design, research objectives, sphere of researcher influence, unit of analysis and time horizon for the study. Section 4.5 plans a research strategy of survey followed by representativeness of the sample selected for the current research. The sampling technique is probability sampling under which stratified random sampling has been used for data collection. Section 4.6 explains the instrument development for data collection and scale adoption. Section 4.7 presents the details on the measurement variables such as independent and dependent variables used. Thereafter, Sections 4.8 and 4.9 presents the pilot study and data analysis technique with path model of SEM using SmartPLS. Finally, section 4.10 recognises the issues related to ethical values and is followed by a summary of the chapter.

4.2 Research paradigm

This research can be considered as part of social science combined with general management study that tends to explain human behaviour and how it interacts with the surrounding environment (Beck and Sznaider, 2006). Numerous research

approaches can be used to deal with social science issues and the selection of the research approach to be adopted is normally influenced by the aim and type of research to be conducted (Saunders et al., 2012; Collis and Hussey, 2009). This section highlights the differences between the main research philosophies and paradigms in social science studies, and the most important research implications arising from these that are revealed in this study are the importance of trust-based relationship approach towards risk minimisation and overall success in IT offshoring. A research paradigm refers to an integrated system of beliefs and practices that influence how researchers make their decisions to select both the questions they intend to study and methods that they will use to study them (Morgan, 2007).

As any research is focused towards a purpose, and is expected to bring new knowledge in the respective field of the study, it is important to link it with the research philosophy (Collis and Hussey, 2009). A research philosophy can be broadly defined as how a researcher perceives the world which, in turn, shapes the paradigm of research and affects the way to perform the research strategy (Easterby-Smith et al., 2008). A range of philosophical perspectives and paradigms are available in social science research, which affect the approaches the researcher can use to develop knowledge in the respective field. However, each one of these paradigms has its own assumptions, perceptions and beliefs about the three major questions that the researcher has to consider (Creswell, 2009): Why research? What to research? How to research? These aspects are related to the epistemological, ontological and axiological concerns of these philosophical perspectives and paradigms (Baker, 2003; Collis and Hussey, 2009). It is necessary to understand these aspects in order to differentiate between the available research paradigms and to select the most appropriate one suited for this research.

Epistemology has been defined differently by previous studies but simply speaking epistemology is an important aspect of philosophy which investigates the nature of human knowledge (Mir and Watson, 2000). It is about what we know or what can be considered as knowledge in a particular discipline and how we link it to reality (Baker, 2003; Saunders et al., 2012). Ontology explains the overall view on the

nature of reality and the attributes of existence, which reflects the assumptions researchers form about how the world operates (Saunders et al., 2012). Axiology is concerned about the ethical, logical and aesthetic values that go into research (Baker, 2003; Creswell, 2009). These perspectives are consequential to each other. This means that the research ontological perspective influences its epistemological perspective, which influences the selection of the methodology (De Vaus, 2001; Baker, 2003). Therefore, understanding and discussing these aspects assists the researcher in the choice of the research paradigm that should be in line with the objective and nature of the research.

Adopting an overall research paradigm involves the choice between various research approaches that are available and have been discussed widely in the literature. These paradigms have been classified mainly based on two major philosophical perspectives, i.e. either the research involves an objective or subjective approach, or there are several other paradigms that are aligned between them (Easterby-Smith et al., 2008). Objectivism and subjectivism has been illustrated in the literature, and each one of these has its own epistemological, ontological and axiological assumptions and methodological implications (table 4.1). While the objectivist approach is mainly guided by the interest to predict and control phenomena, the subjectivist approach is guided by the interest to explain and understand phenomena (Burrel and Morgan, 1979). Objectivists assume that the social world is made up of relatively inflexible, hard and tangible structures which exist and operate independently of the individual's mind.

The role of the researcher is to look for universal laws that can be used to describe this reality (Burrel and Morgan, 1979; Creswell, 2009). Objectivists also believe that, as reality exists independently of the researcher, knowledge can be acquired and communicated to others (Creswell, 2009). On the other hand, subjectivists assume that reality is subjective, intangible and does not exist outside an individual's mind and thus the role of researcher is to explain this reality from their unique point of views and experiences (Easterby-Smith et al., 2008). Subjectivists also believe that, as everything is context-dependent and located inside the individual's mind, knowledge cannot be discovered but can be exposed and the researcher cannot be

separated from what is being researched (Collins and Hussey, 2009). The preceding discussion on the differences between the objective and subjective paradigms reveals that it is important for the researcher to critically review the available philosophical perspectives. This can improve the researcher's confidence about the research findings and that the most appropriate methodology has been adopted.

Table 4.1: Major paradigms of research in social sciences

Paradigm	**Objectivist**	**Subjectivist**
Alternative Names	Positivist Scientific Deductive Quantitative	Interpretivist Humanistic Inductive Qualitative
Ontology (i.e. nature of reality)	Reality is objective and given	Reality is subjective and is product of the mind "Reality is socially constructed"
Axiology (i.e. the aim)	To explain the phenomena through universal laws	To understand the phenomena through interpretation
Epistemology (i.e. what can be accepted as knowledge and how to link it to the reality)	Knowledge can be acquired - "context independent"	Knowledge must be experienced - "context dependence"
Objective	Examine relationships	Explain how people create, modify and interpret the world or explain what is happening
Approach	Hypothetic deductive	Inductive reasoning
Techniques	Measurement	Conversation
Operationalisation	Concepts must be operationalised to enable facts to be measured quantitatively	Qualitative approaches consist of small samples investigated in depth
Results	Causality	Understanding and correlation
Generalisation	To generalise about human social behaviour it is critical to select a sufficient sample	Everything is context-dependent; patterns are identified and theories are then developed for better understanding
Source: Hussey and Hussey (1997);Collins and Hussey (2009); Saunders et al.(2012).		

The existence of numerous philosophical perspectives complicates the process of selecting and adopting the most appropriate research design for a particular study. This is because each of these paradigms has its own philosophical assumptions and methodological implications. Researchers need to ask themselves: what is the most appropriate approach that can be used? In fact, the absence of a common methodology that can be adopted by researchers, regardless of their field of study,

makes some researchers argue that there is no single right approach (Hughes and Sharrock, 1997). Hughes and Sharrock argued:

> As the nature of philosophy, and its relationship to other forms of knowledge is itself a major element of philosophical dispute, there is no real basis for us to advocate any single view on these matters as the unequivocally correct concept of the relationship between philosophy and social research (p. 162).

These arguments indicate that there is no wrong or right paradigm and hence, the researcher needs to adopt a research method that is more suitable to the problem he/she is investigating. This is because some research problems could be better addressed by using either qualitative or quantitative approaches or even a mix of both (Creswell, 2009). Thus, the philosophical beliefs researchers make about how the world operates should guide their decision about how to conduct a research (Hussey and Collis, 2009; Saunders et al., 2012).

4.2.1 Categorisation of research philosophies

The categorisation of various complex research philosophies has been mainly classified into three different paradigms, specifically ontology, epistemology and methodology by Guba and Lincoln (1994) and Saunders et al. (2012). While Ontology is concerned about the nature of the reality to be examined, epistemology is concerned with the acceptable knowledge in a particular field of study and on the relationship of the researcher to the research objectives and reality. Finally methodology relates to techniques, methods and questions used in the research for collecting and validating theoretical information. Additionally, Lincoln and Guba (2000) and Guba and Lincoln (1994) categorised the three paradigms into four schools of thought as positivism, post-positivism, critical theory and constructivism and similarly also viewed by Creswell (2009) and Myers (1997).

The classification of these philosophical assumptions and related philosophical schools of thought is given in table 4.2 and summarised here:

- Positivist philosophy enumerates according to (Bryman and Bell, 2007) value-free and objective natural science methods for the study of social reality and above that. This philosophy is founded on arduously appropriate procedures and acknowledged as a well-directed inquiry. Here the researcher and the object of research are assumed to be independent units without having too much effect on the other (Guba and Lincoln, 1994).
- Post-positivist philosophy belongs to the nineteenth-century philosophical school which recommends that, in the domain of research on the behaviour of human beings and their related actions, a researcher according to Creswell (2009) is not 'positive' about the knowledge which is claimed, if it is not an observed knowledge. In the same way, another philosophy is objectivism which underlines that social occurrence remains independent from social beings (Bryman and Bell, 2007).
- Another philosophical school is the critical theory philosophy resting on the realism principle where social paradox is based upon a social being's concepts and ideas of reality (Bryman and Bell, 2007). Regarding this, the researcher's viewpoint is affected by the research objectives and their connection of one with the other (Guba and Lincoln, 1994). Critical theory and the underlying inquiry method is largely acquired from the interview process and observation. Under this philosophy, a problem which is realist and based on theoretic concepts is investigated to evaluate a hypothesis which could finally be tested (Bryman and Bell, 2007; Guba and Lincoln, 1994).
- Constructivist philosophy is a philosophical school recommending that social phenomena and their connotations are often accomplished by social beings (Bryman and Bell, 2007). Realities arising through social interaction are generally jointly shared and classified by individuals in a group. This inquiry method for examining the objectives in constructivism is also known as 'post-modernism'. These inquiries are in the pattern of interviews and

hermeneutics (Guba and Lincoln, 1994; Klein and Myers, 1999; Walsham, 1995).

Table 4.2: Underlying research philosophical paradigms:

Philosophical Assumptions	Positivism	Post-positivism	Critical theory	Constructivism
Ontology	Native realism: real reality exists and is apprehend-able. It is conventionally summed up in time and context-free generalisations, and is based on cause-effect laws.	Critical realism: real reality but only imperfectly and probabilistically apprehend-able.	Historical realism: virtual reality shaped by social, political, cultural, economic, ethnic, and gender values; crystallised over time.	Relativism: local and specific constructed realities.
Epistemology	Dualist/objectivist; finding are true	Modified Dualist, objectivist; Critical tradition, community; findings are probably true.	Transactional/ subjectivist; value-mediated findings.	Transactional/subjectivist; Created findings.
Methodology	Experimental, manipulative, hypothesis testing, mainly quantitative	Modified Experimental, manipulative, critical multiplism; Falsification, of hypotheses; may include qualitative methods.	Dialogic/dialectical	Hermeneutical/dialectical

Source: Guba and Lincoln (1994, p. 109)

Denzin and Lincoln (2000) suggest that positivism and post-positivism are popularly known as 'scientific deductive methods', according to Creswell's (2009) quantitative research. These two philosophies reflect the deterministic-reductionist approach under which ideas are investigated into a minute group of items and variables with corresponding outcomes and effects Thus, in positivist and post-positivist approaches, variables undertaken can establish hypotheses which can be measured statistically by experiments (Creswell, 2009).

4.2.2 Selection of positivist research philosophy

For guiding the research in this study in a particular direction, the positivist philosophy has been adopted. This is particularly based upon the nature of the issues and problems addressed and linked to the past literature. As per Hirschheim

and Klein, (1992) the positivist philosophy undertakes to investigate rationality applying a deductive process as a methodology.

This is illustrated as:

- Hypothesis, models, or causal relationship formulations in constructs,
- Examination relationships using quantitative methods ,
- Objectivity of researcher's unbiased examination (Chen and Hirschheim, 2004).

Orlikowski and Baroudi (1991) categorised studies as positivist within a meta-analysis of methodological paradigms and recommends that this may be possible if constructed on fixed relationships of the past, calculable measures of variables, hypothesis testing, and sample of a specified population. Past literature identifies in the positivist approach, plausible methods of inquiry are observations, measurements, questionnaire surveys, experimentations, case studies, statistical analysis and simulations. (Mingers, 2003; Choudrie and Dwivedi, 2005).

Hence, based on a positivist approach and methods of inquiry as above, the focused research aim is to examine the significance of critical factors affecting trust, risk and success in IT outsourcing engagements. From an ontological perception, the positivist philosophy is suitable for the current research. It has been viewed by Orlikowski and Baroudi (1991) that in positivist ontology, "*the primarly aim of the researcher is to determine the objective, physical and social reality by proposing accurate method and to identify and measure scopes of reality related to the research*" (p. 2).

The rationale in favour of the positivist approach are: Firstly, using a post-positivist philosophy necessitates another series of interviews to discover the feasibility of the cause-and-effect relationship initially expected to be not true (Guba and Lincoln, 1994) and is beyond the objective realm of the current study. Secondly, a large, updated literature and secondary data is available in the field of IT outsourcing to investigate the constructs and corresponding relationships, so applying a post-positivist approach may lead to improper use of resources. Thirdly,

as the goal of this research is based on objectivism, there is hardly any interference of the researcher in the researched questions, applying a constructivist and critical research approach is not desirable as these are based on a relativist and subjectivist approach having an interlinked relationship between researched objects and the researcher (Mertens, 1998; Guba and Lincoln, 1994).

4.3 Research Strategy: Quantitative vs. Qualitative

Creswell (2009) identifies that quantitative methodology is founded on deductive methodology, objectivist ontology and positivist epistemology. Contrastingly, Bryman and Bell (2007) stated that the quantitative research strategy is a deductive approach using and numerical and scientific analysis to demonstrate the relationships amongst various features, derived from a foundation of established theoretical principles, in the development of studies. The qualitative strategy on the other hand uses methods for the development of hypotheses and theories inductively by affirming explanation and understanding the background of these factors (Creswell, 2009; Klein and Myers, 1999). Significantly, qualitative research provides the researcher to view how individuals perceive and interpret a social reality (Bryman and Bell, 2007).

Adopting a quantitative research strategy for this study comes from the fact that this research uses some established theories (namely, transaction cost economics, agency theory, resource based view and dynamic capability theory) to hypothesise relationships among various constructs and uses the deductive philosophy. The quantitative strategy is considered as a very useful strategy in natural sciences and in social sciences (Creswell, 2009). According to Patton (1990) and Blumberg et al. (2005), this method supports the researcher to test the validity and reliability of prior researched hypotheses and propositions which are largely based on measurement and experimentation techniques.

A qualitative research strategy is not chosen in this study for a variety of reasons. A qualitative research strategy is most relevant when the researcher aims to explore society in a subjective manner by defining and interpreting changing phenomena in

a natural social context. Moreover, it is the most reliable method of research especially in the presence of past literature available to separate constructs and corresponding relationships (Gilbert, 2001; Cohen et al., 2011; Manion and Morrison, 2000). For the present study, the qualitative strategy is not appropriate because (i) the research is not preliminary as there is adequate previous/existing research facilitating to hypothesise relationships among the constructs and (ii) a subjective study is not prerequisite as data can be gathered objectively to validate the hypotheses using the deductive approach.

Creswell (2009) asserted that acceptance of theoretical generalities and recommendations in technical endeavours, particularly in management studies, necessitates a quantitative method which can be validated and explained statistically. Typically, a qualitative methodology is a dependable method for both group and individual studies, assisting the researcher to analyse in a natural setting, propagate theories, and give solutions to the problems. Thus it assists in understanding the problems and intricate measures are adapted to manage them and this enables the researcher to investigate problems not studied in the past (Creswell, 2009; Cassell and Symon, 2004; Yin, 2003). As found earlier, as such this is not relevant to the current research.

The selection of a particular research methodology (i.e. qualitative or quantitative method) should be a consequence of the research philosophical background.

Table 4.3 provides a general guide to the suitability of various research techniques to different philosophical perspectives.

Table 4.3: Assumptions behind quantitative and qualitative paradigms

Assumption	Questions	Quantitative	Qualitative
Ontological assumption	What is the nature of the reality ?	Reality is objective & singular. IT outsourcing relationship management is experienced in a particular way by each respondent.	Reality is subjective and multiple as viewed by participants in a study.
Epistemological assumptions	What is the relationship of the researcher with the researched aspects?	Researcher's position is independent from that being researched. In this study the researcher did not interfere or influence the respondent's views/opinions on their experience with IT outsourcing. The data collection was done with a web based and email based surveys.	During the research the researcher actively interacts with the respondents through an interview process and therefore the interaction of the researcher is involved to a great extent. This may have a possibility of having the researcher's bias imposed on the respondent's views gathered.
Axiological assumption	What is the role of values?	Unbiased and value free. (Realism). The researcher has taken all the steps for making the research unbiased and value free.	Biased and value laden.
Rhetorical assumption	What is the language of the research?	Formal. Impersonal voice. Using accepted quantitative words. Based on set definitions. In this study the questions were formulated based on literature and used a 5 point Likert scale to measure the ratings of the respondents.	Informal. Personal voice. Accepted qualitative words evolving decisions.
Methodological assumption	What is the process of the research?	Process of deduction. Cause and effect. Categories are isolated - static design. Before research. Context free. Generalisations leading to understanding, explanations, and prediction. Reliable and accurate through validity and reliability. In this study the data analysis is done with Path model of SEM using SmartPLS 3.1.9.	Process of induction. Shaping through mutual real-time factors. Categories identified during research process - emerging design. Context–bound. Theories develop for understanding, patterns. Data analysis is inductive, expand or construct theory Findings are holistic and thick.
Source: Adapted from Creswell (2009), p.5			

4.3.1 Research survey strategy

It is necessary to choose a suitable method and strategy as this is crucial within any research to avoid contentious decisions. Various methodologies and approaches have been organised in social sciences and business studies, such as survey methods, case studies, action research, numerical methods/ modelling, laboratory experimental research, field experiments research, grounded theory, ethnography, and phenomenology (Myers, 1997; Crotty, 1998; Creswell, 2009; Chen and Hirschheim, 2004). Among these research methods, the survey method has been found to be the most appropriate and effective for the current research. The justifications behind selecting the survey research method are the following.

- Firstly, it is an appropriate research strategy used in previous literature to achieve objectives as to those in the current research.
- Secondly, it is suitable for the current perspective of the research in order to achieve a generalised and comprehensive contribution.

These rationales are elaborated briefly in the following sub-headings.

4.3.2 Review of research methods applied in Information Systems Outsourcing

In disciplines like social science, psychology and medicine, empirical examinations are quite common. Empirical inquiries are also increasing in IT/IS with the emphasis on human characteristics of software engineering (Seaman, 1999). Current empirical studies of human facets have largely focused on management related facets of IT and IS services. Lately the software industry has identified according to Seaman (1999) that IT development equally involves many distinctive organisational and structural issues which are also called ‘people problems’ which requires to be tackled for future progress.

In the sphere of IT, studies have relied on the strategies and methods which empirically interpret questions related to the research with testing the hypothesis (Chen and Hirschheim, 2004). Resultantly, the survey is viewed to be a highly relevant method of assisting the researcher to analyse occurrences in their natural

setting with a large population (Pinsonneault and Kraemer, 1993). The implication of survey research in relation to the IT sphere is identified with the literature.

The survey research strategy is a primary method within the positivist approach according to Farhoom and Drury (1999): with 49% of the studies applied this followed by 27.1% and 13.5% used experiment and case-study methods.

Literature evidence shows that 62% studies emphasised on empirical examinations and the rest 38% on non-empirical examinations. From the 62% empirical studies, the survey method was found to be prevailing. Hence, interconnecting the meta-analysis literature, survey approach was found to be more applied and popular (Chen and Hirschheim, 2004).

Hence, based on the outcome of the literature review and identification of gap (as most of the previous research in this domain were case-study and opinion poll based), the researcher decided to use a survey research method (with a positivist approach) to achieve the objective of the study.

4.3.3 Merits for selecting survey as the preferred research method

The survey research is according to Zikmund (2003) is a suitable research method as it facilitates a fast, economical, proficient and precise way of evaluating the information related to the population targeted. The three main aims for conducting research through the survey method according to Pinsonneault and Kraemer (1993) are:

1. The research necessitates a quantitative method of examination with standard information about the theme
2. The research necessitates data gathering through questions with a well-defined, organised tool;
3. The research necessitates the skill to simplify evidence about the entire population's characteristics through sampling.

According to Pinsonneault and Kraemer's (1993) principles, this study is primarily based on the positivist paradigm (section 4.2.2) with a quantitative strategy of analysis (section 4.3). Furthermore, this research evidently formulated various

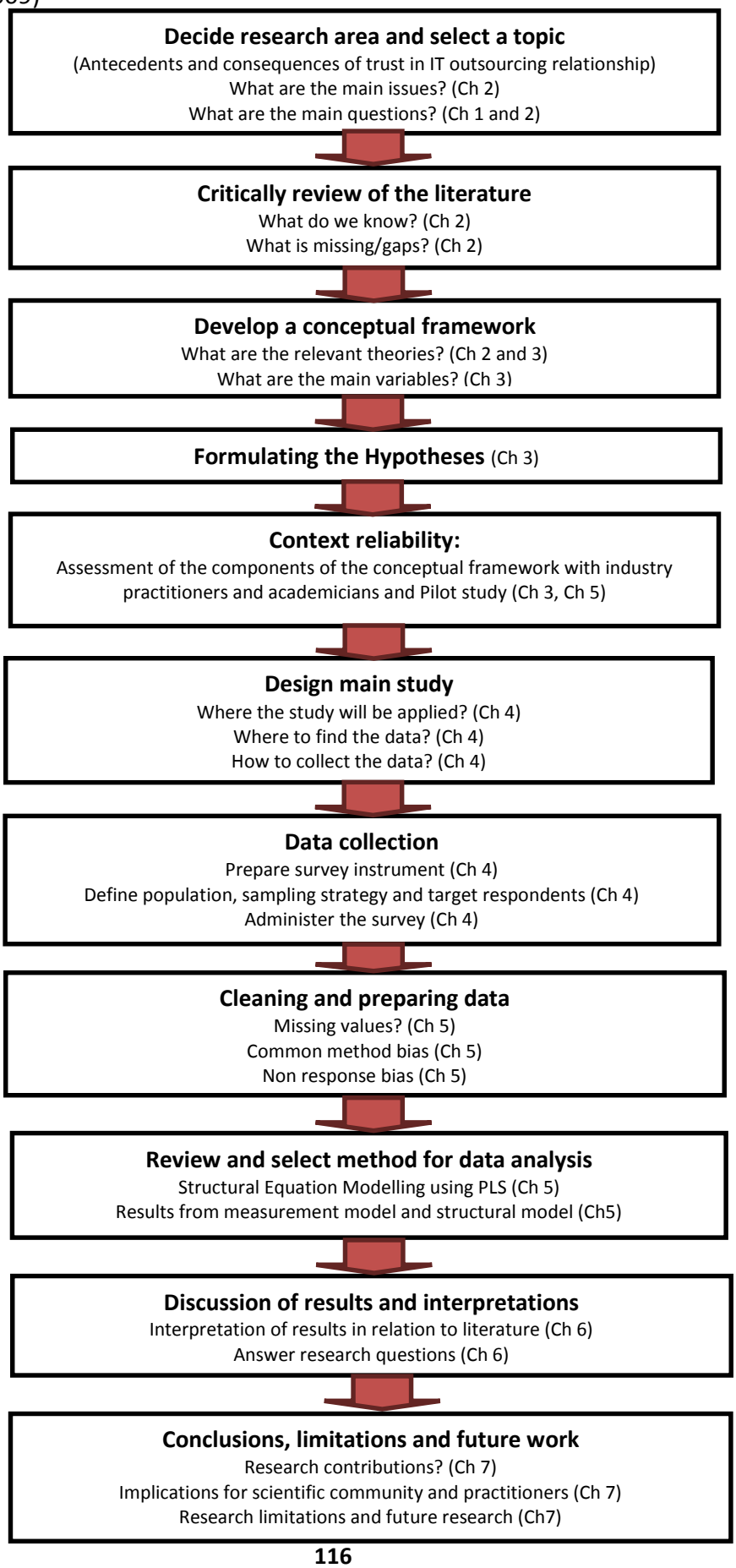
hypotheses linking the constructs, based on literature support justifications. In the current study, the unit of analysis is the individual outsourcing firm (represented by the authorised senior management functional head) in various industry sectors in Europe. Hence considering all the viewpoints and merits, survey method is adopted in the current study.

4.4 Research Design

Creswell (2009) viewed that research design enumerates a comprehensive technique for framing research questions, encompassing data collection, ethical regulations related to field work, methods for data gathering and analysis, and finally the unbiased researcher involvement through the entire procedure. It has been emphasised by Hussey and Hussey (1997) that research success predominantly relies on choosing the appropriate research procedure underlying the design outline. They also view that research design is the process by which the success of each step is correspondingly based on the successful completion of the previous step. The essential steps within the research design model applicable in the research process for the current study presented in the form of a flow chart in figure 4.1.

The research design procedure is classified into three important stages. The first stage is a research design that supports to generate and establish hypotheses built on the relationships of the construct (3rd chapter). The development of a hypothetical model needs a review of existing literature and linked with the research questions (2nd chapter). The second stage follows upon structuring research questions, a number of justified actions/steps are taken as a procedure that is termed as research methodology (in this chapter) in order to validate the relations (hypotheses) amongst the constructs in the framework. Finally, the third stage focusses on the gathering of data (4th chapter), data analysis (5th chapter), discussion and synthesis (6th chapter) and conclusions (7th chapter).

Figure 4.1: Flow diagram on research design (adapted from Saunders et al., 2012; Creswell, 2009)



4.4.1 Agreement on a research design

As discussed above, the four underlying purposes in research design (figure 4.1) was achieved, to determine the critical factors related to IT offshoring relationships and form a hypothesis based conceptual framework. Researcher was then steered to choose a positivist approach using quantitative survey method for the data gathering procedure. Consequently, the fifth purpose of research design is to confirm the steps and related procedure to achieve comprehensive aim of the research. For this, the six guidelines were followed according to Sekaran (2000), that are required to achieve the aim, setting, type, researcher effect, time scale, and analysis unit of the empirical study. The effective strength of a particular choice is given in table 4.4.

Table 4.4: Research process

Research process steps as recommended by Sekaran (2000)	Research process selected in the current study
Purpose of the study- Exploratory, Descriptive, Hypothesis testing, Case study analysis.	Hypothesis testing as purpose of study
Type of investigation- Causal, Correlational.	Correlational investigation
Extent of researcher interference in the study	Minimum interference of researcher
Setting of the study- Contrived, Non-contrived.	Non-contrived setting
Unit of analysis-Individual Organisation(s)	Individual Organisation(s)as unit of analysis
Time horizon- Cross-sectional, Longitudinal	Cross-sectional time horizon

Figure 4.1 shows that initially the literature on IT outsourcing was critically reviewed to determine the theoretical and practical gaps and to develop a conceptual framework. After developing the conceptual framework, some preliminary assessment was conducted with some practitioners in the industry in Europe and academics in the University of Bedfordshire (Business School). These meetings aimed to evaluate the context reliability/validity of this research and to check the availability of relevant data needed to answer the research questions and

to empirically test different relationships involved in the conceptual framework. A list of hypotheses was then formulated. These hypotheses were tested later using real survey data. Then, the findings of the quantitative data analysis were combined and interpreted in relation to the existing literature. By answering the research questions, final implications for the scientific community and for practitioners were highlighted.

4.4.2 Research objective and hypothesis testing

Sekaran (2000) classified the aim of studies as per the nature of the research: descriptive, exploratory and testing hypothesis. The objective of the research brings out the understanding needed for realizing the specific outcome. Resultantly

1. When fresh scopes are needed for investigation, the exploratory stage is recommended;
2. When definite features of the study require to be selected, the descriptive is recommended;
3. When the nature of the problem is analysed and depicted using hypotheses then testing of hypothesis is recommended.

Explicitly, this research follows a positivist approach whereby survey method is used for gathering data to scrutinise the significance level of various factors associated with trust, risk and success in IT offshoring. Thus, as per Sekaran (2000), testing of hypothesis is best suited to accomplish the aim of this study.

4.4.3 Unbiased extent of researcher interference with study

Choudrie and Dwivedi (2005) emphasises on the manner in which the researcher is involved in his research has a vital motivational factor in selecting the appropriate research method; like the case study and survey method. This determines the kind of analysis carefully chosen: causal or correlational, as stated by Sekaran (2000). He identifies where research takes place in a natural situation: like in correlational studies, it is evident that there is hardly any interference from the researcher. Whereas in causal studies when cause-and-effect relationship is established by the researcher through variables manipulation, then his or her involvement becomes

deeper. In relation to the current research, the positivist approach is selected and given priority as against constructivism and critical theories, in addition to the researcher's unbiased views relating to the research data (section 4.2.1). Handling a significant amount of population through face-to-face interviews were found to be unrealistic and data gathered for this study is built on direct sample responses with researcher's un-biased involvement.

4.4.4 Realistic study settings

According to Sekaran (2000) usually all research applying a correlational kind of investigation: like field studies takes place in natural surroundings but causal studies like laboratory activities takes place in unnatural surroundings. This study is realistic and hence the kind of investigation applied is correlational.

4.4.5 Unit of analysis (UoA)

The UoA is the major entity or object that researchers are intending to analyse in their studies and about which generalisations are to be made (Lan, 2004; Creswell, 2009). Clearly determining the UoA can help to understand how the selected UoA relates to a broader body of knowledge (Easterby-Smith et al., 2008; Barratt et al., 2011). Also, it can assist in identifying applicable literature that can be used to clarify the phenomenon under investigation which assists in maintaining consistency throughout data collection and analysis (Barratt et al., 2011). In operations management studies, the UoA can be a manufacturing plant or factory, a primary product line, an individual employee, a system, a business unit or a relationship between buyers and suppliers-networks (Flynn et al., 1990: Forza, 2002). Whether individuals, plants, divisions or corporate levels are selected as the UoA depends on the research questions and hypotheses/propositions (Easterby-Smith et al., 2008).

Sekaran (2000) described the UoA as the degree and type of data collection needed in the following stage of analysing data. Selecting the unit must be checked when preparing the research question as it's an essential feature (Creswell, 2009). Likewise, in the current research, it is crucial to remember the primary objective to investigate some of the utmost critical factors affecting trust, risk and success

characteristics of firms involved in IT outsourcing activities. Therefore, evidently the research questions focus on an individual outsourcing firm to be the UoA. Hence, this research considers the individual outsourcing firm(s) or the service receiver(s) ("client" as defined in chapter 1) as the UoA.

4.4.6 Cross-sectional time horizon

Creswell (2009), Sekaran (2000) and Yin (2003) viewed the cross-sectional time horizon as a research carried out only once to collect data. On the other hand, longitudinal studies (Creswell, 2009, p. 12) are research conducted at different time intervals to assess the modification in variables that are dependent. Regarding the current research, a cross-sectional time horizon is selected, as this investigation is one of the important forecasters of behavioural acceptance. A cross-sectional study is selected as it can be applied to a sample in a small time frame and thereby eliminating the need for the researcher to further invest many years to measure the modification in the variables that are researched (Bordens and Abbott, 2007).

Having elaborated the research design and procedure, now it is necessary to discuss the study population along with the sampling strategy for the data collection process.

4.5 Population and sampling

Consecutive to the above, the following stage in the research design is to compose a sample target. Sample in research is described as a chosen population section, which is conscientiously done to find generalizations about the entire population target (Sekaran, 2000; Schindler and Cooper, 2003; Bryman and Bell, 2007). In the current research, sample design depends on some key factors, as per Fowler (2002):

1. Sample selection- probability or non-probability method of sampling
2. Sample form-definite component of population sampled
3. Sample size- quantity of objects required
4. Response scale- percentage gathered for sampling.

4.5.1 Sampling strategy

It is crucial to realise the significance of the respondents including background, prior to gathering data for collecting data relevant to the desired objectives. The important sampling methods are as per Bryman and Bell (2007): probability and non-probability related sampling. The first provides targeted strata within the population equal access to being selected, and in the second, the elements only have coincidental opportunities of getting chosen (Sekaran, 2000; Bryman and Bell, 2007).

For the current research, a probability method of sampling is selected for data collection, under which stratified sampling method is found to be most appropriate (Rungtusanatham et al., 2003; Saunders et al., 2012). Stratified sampling is a method designed to ensure that the sample has certain basic characteristics; usually that it represents the population of key variables (Jupp, 2006).

Stratified sampling (Rubinstein, 1981) is a variance reduction technique used in estimation. It consists of categorising the sample space to strata and estimating the yield in each stratum. It was initially developed by statisticians for use in sample surveys several years ago and has since been adapted for use in various research studies. As applicable with all sampling methods, stratified sampling is used if there is insufficient time or resources to conduct a census by collecting information from every member of a population. Through the stratified sampling method, the researcher can sample the smallest and inaccessible subsections in the target population representively.

This permits the researcher to sample even the exceptional strata of the given population. This technique results in statistical precision as compared to the technique of simple random sampling. This is due to the fact that the variability within the subsections is lower compared to the variations reflecting on the entire population. As it has a high statistical precision, it also means that this technique requires a small sample size thus saving time, money and effort of the researchers (Hammersley and Handscomb, 1975).

The targeted population for this study are individual European client firms, represented by a senior decision maker, involved with IT offshoring decisions across various functions such as sourcing management, project/process management, finance, operations and technology/infrastructure management. Here, the job title, age/gender, organisation type/industry sector, country, size of the organisation in terms of staff strength is the relevant demographic information for stratified sampling. The response from every group is needed equally. On the other hand in the case of non-probability it is applied in situations where the research intends to generalise the results based on a definite cluster of individuals, like particular job function/title within a specific industry sector. Sekaran (2000) identifies that when more aspects than only generalisability needs to be studied, non-probability is preferred to probability. Thus, for the current research which aims to include a considerably large sample in a short time span, probability sampling is seen to be more beneficial.

4.5.2 Target population sample

Selecting of a precise population target is an important factor to the success of any research (Baker, 2002). Proper decisions for choosing particular locations limits for the research standardisation raising possible restrictions on hypotheses based conceptual framework. Hence, choosing the suitable locations facilitates the researcher in recommending an appropriate manner to examine the suggested hypotheses and theories for generating conclusions (Eisenhardt, 1989). Regarding the location, the aspect of choosing a suitable analysis unit depends on the complete population, Population has been described by Bryman and Bell (2007, p. 182) as "*the world of components from where the sample is carefully chosen*." Population signifies the sample totality or constituents adhering to specific targets, like a group of companies, communities, schools, individuals, hospitals, associations, colleges, nationalities that having same features (Baker, 2002; Zikmund, 2003).

The population target chosen in the current research are senior management professionals working in various industry sectors involved with IT outsourcing

decisions, in Europe. It is quite impractical and costly to incorporate entire population in this research. Consequently, a frame for selecting the sample is discussed in the following section.

4.5.3 Sample population and demography

Sampling framework is also known as the 'working population', which as per Zikmund (2003); Sekaran (2000); Bryman and Bell (2007); includes every unit in the population targeted in the sample. For the current research, selecting a relevant sampling amount is built on the specifications recommended as per Rice (1997) given below:

- Comprehensive frame refers to a type of accurate framework whereby the natures of the sample collected from population targeted are appropriate and representative.
- Competent frame refers to that frame which covers the entire population demography.
- Modern age frame facilitates sampling from updated records regarding targeted population.
- Easy to use frame refers to the frame where the population of interest sampling is simple to collect, practical but not duplicated.

For the present study, the sample population is based on relevant statistics and client data base available through secondary sources in the European IT offshoring industry, such as: Datamonitor, National Outsourcing Association-UK, TiE-UK, European Commission, UNCTAD, Gartner, IAOP and IT outsourcing specific business publications / quarterly magazines / industry reports such as the *Blackbook of Outsourcing*, *Outsourcing Magazine* and *Professional Outsourcing*.

As gathering the entire population is impossible, costly and time-consuming (Sproull, 1995), in the current research, the sample population are individual professionals who represent IT offshoring functions in various industry sectors across Europe. Also, the sample population in the current study are full-time professionals. The purpose of the current study is to investigate effectiveness together with the soundness in conceptual framework and mitigating influence of

the demographic factors like functional area, organisation type/size, job title/position, country/region and the industry sectors etc.

Table 4.5: Demographic composition of the sample

Demographic	Group		Demographic	Group
Gender	Male Female		Annual revenue	over $10B $1B - $10B $500M - $1B $100M- $500M $50M- $100M $20M- $50M $10M- $20M
Job role	CEO CIO COO CTO PM/PMO Sourcing Head Finance Head Sales Head		Countries	United Kingdom Belgium France Netherlands Germany Luxembourg Switzerland
Industry sectors	Financial Services Transportation Retail and CPG Logistics Manufacturing Telecom Media Hi Tech Others (SME/EPC)		Annual IT offshoring spend	over $500M $250M - $500M $100M - $250M $50M - $100M $25M - $50M $10M - $25M $ 1M - $10M

4.5.4 Number of samples

To make a decision about the precise quantity for a sample is hazardous and complicated work. In this context, if the size of the sample is lower than the probable size, it results in increased chances of disaster convergence, inaccurate result (negative error variance estimated for a measured variable), and less exactness of an attribute (Comrey and Lee, 1992; Hair et al., 2006).

In the other hand, more than required size of the sample results in loss of money, time and process to collect the respondents' answers (Zikmund, 2003; Bryman and Bell, 2007; Hair et al., 2006). This is why it is important to decide judiciously upon

the proper sample size so that it can be standerdised across the population targeted.

The other strategy to select the size of the sample is determined by the data analysis techniques and methods according to Fowler (2002). Its suggested in literature (Hair et al., 2014), to check the size of the sample as it is essential to find options and strategies for data analysis methods that are suitable for this type of studies. Based on the characteristics of the conceptual framework, this study is directly related to multiple regression including statistical techniques. Data analysis literature underlines a certain guidelines that are designed to achieve accurate and authenticated results using Structural Equation Modeling (SEM) using partial least squares. From these few are deliberated for the current research and enumerated here

Roscoe (1975) suggested four rules for deciding and constituting a sample size:

1. Sample size (n): n>30 and n<500 are applicable for a lot of research.
2. Appropriate sample- divided into sub-samples, is a minimum sample size of 30 for each group.
3. In multivariate analysis-the size of the sample required should be 10 times the number of constructs in the framework.
4. In experimental research- size of the sample of about 10 to 20 respondents is enough having adequate control over the behaviour of the respondents.

In the current research, calculations were executed applying and Morgan's and Krejcie (1970) principle and various literature based guidelines (Bentler and Chou, 1987; Comrey and Lee, 1992; Hair et al., 2014; Loehlin, 1992). The current study achieved a workable sample of 136 which was after the missing data treatment. The details are presented in the next chapter (section 5.3).

4.6 Survey development for data collection

Following the decision on the sample size (number of samples), the subsequent stage in the research design is choosing the relevant tool for the collection of data. In order to achieve research aims and goals, preparing and choosing the accurate

tool reflecting compatibility and certainty is a necessary but complicated procedure (Zikmund, 2003). The most important criteria of the instrument is to be able to answer research questions about what is being estimated (construct validity) and how it is being estimated (construct reliability) as per Zikmund (2003). The current research adopted Sekaran's (2000) and Frazer and Lawley's (2000) processes to formulate an appropriate tool based on these three stages:

1. The development of the content of the instrument through aspects of item choices, grouping arrangements, scales and coding prior to analysis,
2. Terminology used in the instrument, and
3. Design of the instrument.

Constructs specified in the conceptual framework were estimated through an organised questionnaire. For improving the content validity checks for measuring the items, certain steps were followed. Firstly, a detailed literature review was undertaken to identify valid measurements for the related constructs. In this study, the researcher has applied prevailing measures already applied in previous studies. Secondly, the initial tool was revised taking into account various feedback from the academics, offshoring managers and the pilot study, the measures were further revised to bring more clarity, understandability and validity. Finally, the main study was performed to validate the given measures of the constructs. The main study survey questionnaire is shown in appendix 4.

4.6.1 An overview of survey techniques

This section aims to describe the development of the survey/questionnaire that was used to collect the data needed to conduct this research. It begins with a brief explanation of the meaning of the survey and when it can be used. Then, the important steps that need to be considered when designing a survey are highlighted.

The use of field-based empirical research methodologies in operations management has been growing steadily over the last decade, in which survey designs with questionnaires have been one of the most popular methodologies (Rungtusanathm et al., 2003; Fisher, 2007; Boyer, 2008; De Horatius, 2011). The

same trends were also noticed in IT outsourcing research (Kadiyala and Samaddar, 2006). In general, survey research may refer to a group of methods, which focus on quantitative analysis, and where data from a large number of firms are gathered using different methods like telephone interviews, mailed questionnaires, internet questionnaire, or from data published (Saunders et al., 2012). These data are then analysed using statistical techniques (Saunders et al., 2012; Creswell, 2009).

There are available three main types of survey research and researchers need to understand the differences between these to be able to select the most appropriate type, matching the research objectives (Malhotra and Grover, 1998).

The first type can be considered 'exploratory' research, which is used when the aim is to gain preliminary insight on a topic. It usually provides the foundation for a more extensive survey (Filippini, 1997; Creswell, 2009). Also, it provides initial evidence of relationships between concepts and assists in validating the boundaries of a theory (Forza, 2002).

The second type of survey research can be classified as explanatory which is used to find causal relationships between constructs by using theory based expectation on why and how constructs could be related (Malhotra and Grover, 1998).

The last type of survey research is referred to as 'descriptive', and its purpose is to depict the distribution of any phenomenon in a population. Its primary objective is not theory development but it can provide useful tips for theory testing and theory development (Wacker, 1998).

One of the objectives of this study is to develop understanding of relationships among the variables of interest. Thus explanatory type of survey research has been used. This research adopted the approach of using a multi country (within Europe) and multiple industries for collecting data. Using multiple industries, allows researchers to understand and show what is happening within several industries rather than being restricted to practices of isolated extreme cases (Khan et al., 2012).

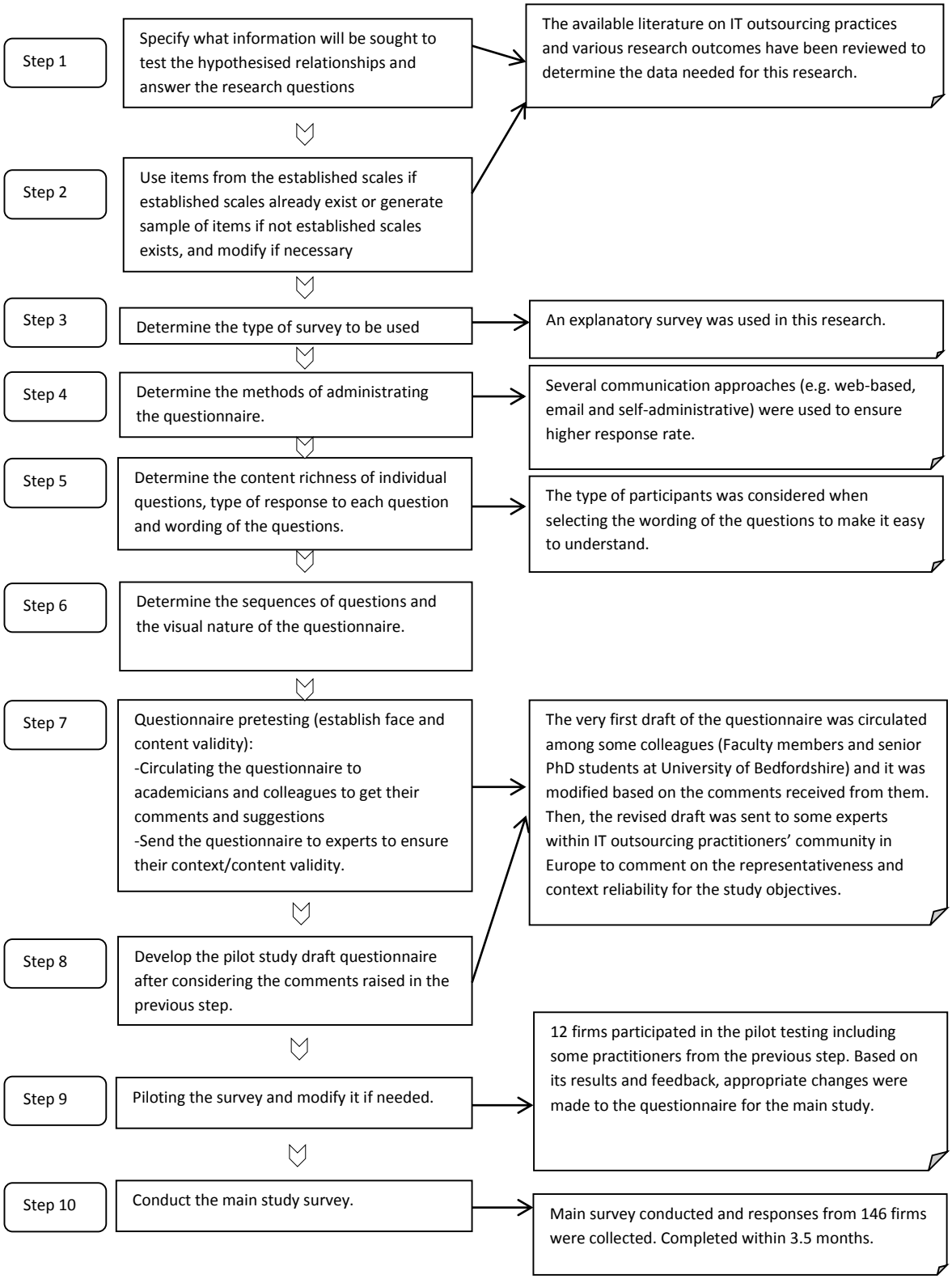
The survey is usually related to the deductive approach and used to answer what, who, how much, how many and where questions (Forza, 2002; Saunders et al., 2012). The survey approach is popular because it permits the collection of a large data from a relatively large population in a very economical way by using a questionnaire directed to a sample.

It also allows for easy comparison among the collected data (Easterby-Smith et al., 2008). In addition, it involves collecting information from individuals about themselves or about the social groups to which they belong.

The survey aims to explore relationships that are common among organisations with an objective to provide generalizable conclusions on the aim of study (Rungtusanathm et al., 2003). It is therefore very critical for a survey to succeed in explaining causal relationships between constructs or even in providing descriptive statistics, it must be properly designed (Lan, 2004).

Taking necessary inputs from several guidelines suggested by previous studies were considered by the researcher in order to develop an appropriate survey for this research. These guidelines are presented in figure 4.2 and will be discussed in the following sections.

Figure 4.2: Guidelines for successful survey development (adapted from: Saunders et al., 2012; Creswell, 2009)



4.6.2 Method of data collection

The method used for the collection of data is a fundamental process of all research designs (Sekaran, 2000). Zikmund (2003) suggests this facilitates the collection of the respondents opinions from the population targeted on a particular matter.

Different techniques and methods are used for data collection relating to the research question. The data can be gathered through interviews, which can be personal, telephone or through internet. The survey incorporates respondent assisted, mailed, electronic and internet based survey (Fowler, 2002; Zikmund, 2003; Sekaran, 2000). The choice of the technique of collecting data depends on the sample size required, types of question prepared, amount and the nature of questions in the instrument, easy availability to respondents combined with quick time lines (Fowler, 2002).

Literature has been reviewed to determine the most suitable approach and methods for data collection which can help to empirically test the proposed conceptual framework. Based on section 4.2, positivism is the overall research paradigm of this research, in which the researcher examines relationships in a way that can better explain the phenomena through universal laws and tries to discover the reality without interacting with what has been researched (Collis and Hussey, 2009). In this paradigm of research, most of the data collected are numeric types, which implies that quantitative approaches of collection and analysis of data could be used (Saunders et al., 2012).

In this research, survey was selected as a main method of data collection, which was also supported by secondary data obtained from literature. These secondary data are related to general information about IT outsourcing firms in Europe and their performance. The survey questionnaire items are developed based on the literature review and adpatations from past research studies.

As discussed in the previous section, the survey questionnaire method for data collection used fixed closed or open-ended written items to be completed by respondents as stated by Sekaran (2000). The respondent-assisted / self-administrated method, by web based survey software ‘Qualtrics Research Suite’ is

used as the main mode of data collection. Zikmund (2003) defined that the self-administrated questionnaire is an instrument usually attached to mail/e-mail or an internet link, sent and completed by respondents. Justifications for choosing the self-administrated data collection method are enumerated here:

- Better access: the population targeted in the current research are organisations involved in IT offshoring, located geographically through Europe. Hence, an accessing and contacting individual organisation (or their representatives) seems to be impractical. For this purpose, self-administrated internet tool based survey and email method is found to be preferable (Zikmund, 2003).
- Fast and cost-effective: distributing at the same time to many respondents, time, money and effort can be saved. This is in comparison to the interview method, where the researcher doesn't require to be near the respondents and complete the given data, thus saving time and energy as per Sekaran (2000); Zikmund (2003). In the current research, to economise on time taken, avoid delays in the post and incurring extra investments on prints and travel, an internet questionnaire has been preferred.
- Respondent convenience: In the respondent-administrated survey through e-mail or post, they can choose a convenient time and provide unbiased information to complete it (Zikmund, 2003). In this method the respondents are not affected by the bias of the researcher and shortages of time.

However, the self-administrated method also has corresponding disadvantages, such as:

1. Respondents can take their own time in completing the data and can also fail to respond.
2. Some questions may need added explanations for completion, or ambiguous instructions can face problems in understanding and these may additionally require guidance provided by the researcher (Sekaran, 2000; Zikmund, 2003).

Under this survey, confidentiality and sensitive data privacy is maintained through a covering letter sent with questionnaires. Private information is safeguarded by not revealing the respondent`s identity which is secured through a coding system. As per Zikmund (2003), the researcher can utilise the feedback method to request gently if the response rate is slow and if due to complex language - then a revised questionnaire can be provided.

In this study, an email survey was created based on outsourcing literature (Ang et al., 1998; Lacity et al., 1994). Content validity was established by using previously validated variables (section 4.7) and through an assessment of the framework and questionnaire with senior IT outsourcing professionals in European client firms. The survey tool was developed from existing studies and went through various improvement procedures (Dillman, 2000) as well. The initial survey questions were assessed by native English as representative population comprised of 15 IT outsourcing experts, 5 academics, and 4 PhD students. This was undertaken to test the survey instrument in terms of clarity, completeness, and readability. A pilot was conducted applying a systematic random sample of IT outsourcing client firms in Europe.

4.6.3 Survey questionnaire content, language and layout

English is chosen as the laguage of the questionnaire survey for this study. The reason for chosing English is that most of the global IT offshoring communication and documentation activities are usually conducted in English. Also communicating in English as the medium of laguage makes it easy mainly because the suppliers are usually based in another geographic region with diverse culture. However, English as a language is found to be well practiced in most IT offshore supplier countries. Hence the language for communication as a practice is standardised with English (NASSCOM, 2014). Both NASSCOM (2014) and Gartner (2014) reported that majority portion of IT offshoring suppliers are based in India, China, Philippines, Thailand and Vietnam. Therefore, the researcher opted to choose English as the language for questionnaire considering that the practitioners/clients would be comfortable in English due to the nature of their job profile. Though there are some

emerging offshore locations catering to some European clients having specific language requirement like Morocco (French), Brazil (Spanish) and Indonesia (Dutch), the volume of IT offshoring in these countries are not substantial. Also, as per Li and Li (2009) most of IT/IS outsourcing surveys that are reported in quality journals are mostly in English. Hence the decision of selecting English as the laguarge is well supported by academic literature as well as the relevant industry reports.

The language of the questionnaire is also known as 'phrasing' of the question, and mainly classified as either open-structured or closed-structured (Zikmund, 2003). While open-structured questions perform well as the respondents can openly share opinions assisting in an exploratory research, closed-structured questions are particularly suitable for explanatory research. Considering the character of the present study, the close-structured questionnaire wording is selected. This is beneficial due to little time required to complete, helping the respondent answer quickly. Zikmund (2003) and Sekaran (2000) recommend, closed-structured questions facilitates tabulation and coding of the responses without much effort for purposes of quantitative analysis technique. In addition to wording of questions, the researcher also examines the possibility of bias from questions through the avoidance of unclear and prompted responses.

The entire questionnaire wording and layout plays a vital role in enhancing the interest of the respondents to complete responding to the full questionnaire, without any difficulty (Sekaran, 2000). The content of question(s) in this study are targeted to capture the objective feelings, based on experience of the IT outsourcing client firms (through the senior practitioners representing the individual firm). The language used in the questions are simple to understand without the use of phrases and technical jargons. Every question is worded in easy and short sentences, to make the respondents comfortable to answer all the questions without having any issues in the structure and content regarding the questions.

Sekaran (2000) recommended five basic principles for an effective questionnaire design:

1. Form and type of question,
2. Question sequencing,
3. Content appropriateness,
4. Easy wording and sophisticated language
5. Demography data sought from the respondents.

In this study the demography information is kept at the end as demography information does not play much significant role in this research besides the responses collected from evenly distributed industry sectors and organization types.

4.6.4 Scale used to measure intensity of response

The items selected for different constructs (Sekaran, 2000) in this research uses odd Likert scale (5 point). Respondents rating as per the interval scale of categories vary in intensity: from strongly disagree to strongly agree. It is critical for a scale to include enough categories in the measure to achieve sufficient variance among respondents (Hinkin, 1995). Few researchers (e.g. Jacoby and Mattel, 1971) propagate that two or three categories are enough to ensure sufficient reliability, which levels off after five (Lissitz and Green, 1975). Modern studies have identified that more than three is required for stability and a rating scale of less than five should be discouraged (Weng, 2004). This study incorporates five-point Likert scale (1 being “strongly disagree” ; 5 being “strongly agree”) and is aligned with prior studies. The details on the items against each construct, considered in the survey are presented in section 4.7 and appendix 4.

4.6.5 Operationalization of the study constructs

In this and subsequent sections, the different concepts presented in the framework has been operationalized. Following the development of the framework, the researcher executed a sequence of assessments with IT offshoring professionals to evaluate the initial validity of the framework. The researcher then designed the

questionnaire based on existing literature and the feedback from the initial assessment. To help measure construct characteristics (e.g. consistency, accuracy and others discussed in the next chapter) the researcher depended on the multi-item method and allocated each item on a five-point odd Likert scale. The researcher adapted the measures/questions/items from the relevant past research on the subject area. In some cases, the researcher had also initially considered transforming the literature meaning of the construct into items for measurement.

An initial version of the survey instrument was refined through extensive pretesting and several rounds of discussions with five academics that have significant expertise in the field of operations management and IS. The instrument was further pilot tested with twelve clients in Europe. The series of instrument construction phases led to the improvement in terms of refining and reorganisation of the survey tool (Nunnally, 1978).

As the questions included, were primarily motivated by previous surveys, it is practical to adopt that generally operationalization of the concepts are valid and added content validity tests are not required. However the reliability of the constructs are tested by Cronbach`s Alpha (presented in section 5.5.1).

4.7 Measurement variables

This study examined the critical factors affecting IT offshoring success through determining of antecedents and consequences of trust within European enterprises. An extensive review of the literature was conducted to develop an integrated conceptual framework that incorporated:

1. The collective conceptualisation of IT offshoring practices,
2. The direct relationships between critical factors and trust development in IT offshoring relationship, from client's perspective and
3. The consequences of trust on the overall relationship in IT offshoring engagement and performance.

According to the research conceptual framework, the objectives, questions and hypotheses, seven constructs were developed in order to carry out the main study. The factors are categorised as independent and dependent variables in this study and explained in the following section.

The data for all of the above seven factors were obtained using the developed survey (appendix 4). Accordingly, 42 questions (items) were developed based on the outsourcing literature and were modified based on the characteristics of the IT offshoring practice. All items in the questionnaire were measured using a 5-point Likert scale. The definition and development of each of these constructs will be discussed individually. These items are by no means exclusive but they try to provide a comprehensive measure of the combination of several relationship management components (i.e. antecedents/determinants, intensity and consequences/performance).

4.7.1 Independent variables

The inclusion of critical factors in the conceptual framework is based on how other researchers from the literature review study describe and perceive various critical factors in relation to a successful outcome. Additionally, academic and practitioner's interpretation of critical factor's influence on the degree of successful outcome of the IT offshoring process has contributed to the resulting amount of these critical factors taken into consideration for this study. Due to the large number of factors (as cited in the literature), the researcher decided to categorise them into key constructs/variables. The constructs/variables in the conceptual framework identified as independent variables are the following:

Independent variables (Antecedents of trust include):

1. Legal contract
2. Relationship-specific investments
3. Information/knowledge sharing
4. Information security

4.7.1.1 Measurement of legal contract construct

Table 4.6 provides a list of legal contract items as an enabler of trust. The measurements of legal contract construct items are needed to test hypotheses H1.

Table 4.6: Items to measure the legal contract construct
(scale 1 - 5; 1= strongly disagree, 5= strongly agree)

Legal contract items	Legal Contract Construct Questions in the survey
LC1	Scope is well defined
LC2	Milestones are clearly defined and mutually agreed
LC3	Measurable SLAs/KPIs are clearly enumerated and mutually agreed
LC4	Mutually agreed "Rewards" and "Penalty" Clauses are based on SLA/KPI achievements and clearly built into the contract
Adapted from: LC1 and LC2 from Lacity and Willcocks (1998) LC3 and LC4 from Goo et al. (2009)	

4.7.1.2 Measurement of relationship-specific investments construct

Table 4.7 provides a list of relationship-specific investments items as an enabler of trust. The measurements of relationship-specific investments construct items are needed to test hypotheses H2.

Table 4.7: Items to measure the relationship-specific investment construct
(scale 1 - 5; 1= strongly disagree, 5= strongly agree)

Rel. specific investment items	Rel. specific investment Construct Questions in the survey
RS1	The supplier firm has invested in facilities, manpower and technology to better serve the client firm.
RS2	The supplier firm has invested in adequate training for employees to manage the customer engagement relationship.
RS3	The supplier firm has invested in Quality Processes to fit into our specific requirements.
RS4	The supplier firm has also invested in engagement thru proving special facilities, manpower and technology or in other areas to show commitment.
Adapted from: RS1 and RS4 from Suh and Kwon (2006) RS2 and RS3 from Tian et al. (2008)	

4.7.1.3 Measurement of information/knowledge sharing construct

Table 4.8 provides a list of information/knowledge sharing items as an enabler of trust. The measurements of information/knowledge sharing construct items are needed to test hypotheses H3.

Table 4.8: Items to measure the information/knowledge sharing construct
(scale 1 - 5; 1= strongly disagree, 5= strongly agree)

Info/knowledge sharing items	Information/Knowledge Share Construct Questions in the survey
KS1	Our supplier shares their own business information transparently.
KS2	Our supplier shares knowledge of their core business processes.
KS3	Our supplier shares critical knowledge/IP developed by them for our business execution.
KS4	We and our supplier share information regarding our business environment that affects each other's business.
Adapted from: KS1 and KS4 from Doney and Cannon (1997) KS2 and KS3 from Dyer and Chu (2011)	

4.7.1.4 Measurement of information security construct

Table 4.9 provides a list of information security items as an enabler of trust. The measurements of information security construct items are needed to test hypotheses H3.

Table 4.9: Items to measure the information security construct
(scale 1 - 5; 1= strongly disagree, 5= strongly agree)

Info Security items	Info Security Construct Questions in the survey
IS1	The supplier firm is conscious about the client's information security needs and protects it through their internal processes.
IS2	The supplier firm has appropriate infrastructure in place to protect the customer's data from any external or internal attack.
IS3	The supplier firm has alternative data back-up and disaster recovery center just in case the primary center is affected.
Adapted from: IS1 from Khalfan (2004) IS2 and IS3 from Endorf (2004)	

4.7.2 Dependent variables

The constructs/variables in the conceptual framework identified as dependent variables are:

1. Trust
2. Minimise uncertain risk
3. Outsourcing success.

The following subsections discuss in detail on the basis for development of the above construct measurement items.

4.7.2.1 Measurement of trust construct

Table 4.10 provides a list of trust items that can minimise uncertainty risk and improve outsourcing success. The measurements of trust construct items are needed to test hypotheses H5.

Table 4.10: Items to measure the trust construct (scale 1 - 5; 1= strongly disagree, 5= strongly agree).

Trust items	Trust Construct Questions in the survey
TS1	The supplier usually keeps its promise(s) regardless of form of promise (verbal or written contract).
TS2	The supplier practiced sound business ethics and always followed its written code of conduct.
TS3	The supplier company was always concerned about the impact of their failure on the client's business.
TS4	The supplier company never did anything wrong to the client's business either deliberately or being ignorant about it.
TS5	Our supplier makes beneficial decisions to us under any circumstances.
TS6	Our supplier is willing to provide assistance to us without exception.
TS7	Our supplier is sincere at all times.
TS8	We and our supplier have friendly relations.
Adopted from:	TS1 and TS2 from Tian et al. (2008) TS3 from Morgan and Hunt (1994) TS4 - TS8 from Han et al. (2008)

4.7.2.2 Measurement of minimise uncertain risk construct

Table 4.11 provides a list of uncertainty risk items that can improve outsourcing success. The measurements of this construct items are needed to test hypotheses H6.

Table 4.11: Items to measure the uncertainty risk construct
(scale 1 - 5; 1= strongly disagree, 5= strongly agree)

Uncertainty items	Uncertainty Construct Questions in the survey
RU1	The supplier company takes care of "Uncertainty Risk" factors (technology, infrastructure, HR, cost, productivity, quality etc.) well ahead of time.
RU2	The supplier company tried to mitigate the "Uncertainty Risk" elements by internal controls.
RU3	The supplier company is keen in extending their support in joint initiatives (with the client company) to minimize "Uncertainty Risks" associated with timely & contractual delivery.
RU4	We and our supplier make decisions for business objectives and directions together to reduce "uncertainty risk".
RU5	We and our supplier solve most problems together in a collaborative way to reduce probability of uncertainty risk.
RU6	We and our supplier are willing to comply with each other's requests.
RU7	We and our supplier are interested in each other's problems and solving them to reduce risks of uncertainties.
Adapted from: RU1, RU2, RU3 from Dhar et al., (2004) RU4 and RU7 from Bahli and Rivard (2005) RU5 and RU6 from Tafti (2005)	

4.7.2.3 Measurement of outsourcing success construct

Table 4.12 provides a list of outsourcing success items. The measurements of this construct items are needed to test hypotheses H7.

Table 4.12: Items to measure the outsourcing success construct
(scale 1 - 5; 1= strongly disagree, 5= strongly agree)

Outsourcing Sucess items	Outsourcing Success Construct Questions in the survey
OS1	The supplier company performed very well and as per the SLA and overall expectations.
OS2	The overall relationship was healthy and enjoyable (mutually beneficial) experience.
OS3	The supplier company added a lot of business values.
OS4	The supplier company contributed towards the business growth through outsourcing initiatives taken by the client company.
OS5	We are committed and prepared to enhance the relationship through further and long-term engagement(s).
OS6	We have been able to refocus on our core business.
OS7	We have enhanced our IT competence.
OS8	We have increased access to skilled personnel.
OS9	We have enhanced economies of scale and technical and HR resources.
OS10	We have increased control on IT expenses.
OS11	We have reduced the risk on technological obsolescence.
OS12	We have increased access to key information & communication technologies.
Adopted from: OS1 from Gottschalk and Solli-Saether (2005) OS2 – OS5 from Tian et al. (2008) OS6 – OS12 from Han et al. (2008)	

4.8 Pilot study

A pilot or feasibility study is undertaken prior to the main data collection process to check the reliability and validity of the content and if any improvement needed in the the tool (Zikmund, 2003). It has been stressed by Ticehurst and Veal (2000, p. 151) piloting reduces and phases out probable flaws and errors in the survey questionnaire. These may be related to difficult terminologies, sequence, connection with respondents, rate of response, design and completion time taken and investigation procedure. The sample suggested for the pilot is usually 10 to 30 individuals from the target population as per Luck and Rubin (1987) and if data is obtained correctly in the desired format, it is usually successful survey.

As a refinement process of the instrument, content reliability has been measured in the form of reliability assessed by Cronbach's α test, ensuring the construct measures are error free and consistent (Peter, 1979, p. 6.).

The pilot study and results are discussed in section 5.2.

4.9 Data analysis

Developing a research design and deciding on the data gathering method, the consequent stage is analysing and interpreting the data. The validation of the conceptual framework requires the current study to be analysed through the stages of initial data analysis and structural model assessment.

As observed in conceptual framework, this research contains multiple dependent variables (constructs or unobserved variables) and independent variables (measurement items or observed variables). The investigation of relationships between these variables is necessary to answer the research questions. This is feasible by a simultaneous multiple regression analysis and factor analysis using Structural Equation Modelling (SEM). Structural equation modelling has been commonly used for data analysis by previous operations management empirical studies (Forza, 2002). It is a multivariate statistical method, which is effective when a series of regressions' needs to be performed and when observable items are

related to multiple unobserved latent factors either directly or indirectly (Tabachnick and Fidel, 2007; Hair et al., 2006). SEM accumulates and brings together simultaneous regression analysis, path analysis and factor analysis. This has been found to be a more comprehensive technique than using a single statistical tool (Sroufe and Calantone, 2003; Shah and Goldstein, 2006).

SEM uses the confirmatory approach (or Confirmatory Factor Analysis, CFA) when analysing the structural conceptual framework of the phenomenon under the purview of this study, considering the patterns of multiple relationships between observed variables which need to be specified a priori (Tabachnick and Fidel, 2007). This theoretical and conceptual framework represents the causal relationships between multiple observation variables (Hair et al., 2006).

SEM is used with the assumptions that (1) the causal relationships of all observed variables under investigation are characterised by a sequence of multiple regression (structural) equations, and (2) the related linkages are demonstrated in pictures to depict a better visualisation of conceptual theories undergoing investigation (Tabachnick and Fidel, 2007; Byrne, 2010). The proposed theoretical model can then be examined using simultaneous multiple regression analyses to determine how well it conforms and fits with the data that is collected through the instrument (survey questionnaire). As SEM requires a priori specification of patterns of relationships between the observed variables under investigation, it has been considered as the most appropriate way to analyse data for 'inferential' objectives (Hair et al., 2006).

In comparison to other multivariate statistical procedures such as Exploratory Factor Analysis (EFA), CFA is much more capable of measuring and correcting for measurement errors. This is primarily the proportion of the latent construct that measurement variables under study are unable to capture for various reasons, which may range from simple data entry errors to other errors related to incorrect definition of the construct (Hair et al., 2006). Hence, this implies that the SEM methodology can provide an improved capability of detecting theoretical relationships (Byrne, 2010). Moreover, data analysis through traditional

multivariate statistical procedures relies entirely on the interrelations between observed variables. On the contrary, the analysis in SEM takes into account both the observed variables (variables that can be directly measured and observed) and unobserved variables (e.g. latent variables) that cannot be directly observed (Anderson and Schmittlein, 1988; Hair et al., 2006).

Also, the SEM methodology enables the study of the interrelations between two different yet interrelated types of latent variable, namely exogenous and endogenous. The exogenous latent variables represent the independent variables in the model and they can be influenced by external factors that are not included or explained by the model (Tabachnick and Fidel, 2007). The endogenous latent variables represent the dependent variables in the model that can be influenced, directly or indirectly, by the independent variables present in conceptual model which can explain any deviations in the endogenous variables (Hair et al., 2006; Tabachnick and Fidel, 2007).

Furthermore, there are two main approaches in which SEM can be used to examine complex theoretical models:

1. Covariance-based SEM (CB-SEM), and
2. Variance-based or component-based SEM (PLS-SEM).

Each method has its merits and the researcher's choice of a technique would be based on the nature and objectives of the research (Roberts et al., 1990; Henseler et al., 2009). In general, most of previous SEM studies considered covariance-based SEM to examine if and to what degree a specified model is able to reproduce the covariance (correlation) matrix among the measurement items (Hair, et al., 2006; Lai and Cheng, 2009). This is also consistent with SEM implementations in the most commonly used software such as AMOS, LISREL and EQS (Gerbing and Anderson, 1988; Byrne, 2010). However, the Partial Least Squares (PLS) technique is an alternative to the more conservative CB-SEM technique. PLS is highly recommended when the focus is to predict the amount of the explained variance in the dependent latent constructs (Henseler et al., 2009).

This analysis relates in assessing the structural model for examining the connected relationship between the independent and dependent variables affecting a particular firm's decision concerning IT offshoring (trust, risk and success). For this reason, SEM employing PLS, path analysis with latent variables (Bagozzi and Yi, 1988; Bagozzi, 1984) is applied here for validating the conceptual framework.

This study used PLS-SEM employing the bootstrap method 1,000 times to obtain the *p*-value. The concepts of path modelling of SEM, measurement models for employing PLS, and useful deliberations for selecting PLS-SEM are presented in section 5.4.

4.10 Ethical considerations

This study falls under the umbrella of general business management and social science research intending to examine organisational approach in an exchange relationship. Therefore the ethical issues are of primary importance. According to Zikmund (2003); Sekaran (2000) lack of ethical consideration before and during the collection of data results in insufficient respondent's cooperation which inhibit the necessary amount of data collected.

Sekaran (2000, pp. 260-261) stated that the researcher should uphold human rights by giving priority to ethical considerations: This can be done by:

1. Assuring the respondents that their information will be handled as confidential;
2. Assuring respondents that their private information will be protected and not shared;
3. Assuring respondents their views will not be distorted or misquoted at any time;
4. Researcher should underline the intent of the study without misrepresentating research goals;
5. Researcher should not misuse or misinterpret the responses received from the respondent and

6. Researcher allows respondents to willingly and voluntarily agree to participate in the survey and not force them to do so.

In addition to Sekaran's (2000) recommendations, the guidelines of the University of Bedfordshire's ethical committee are adhered to when gathering data as well as over the entire course of this study. As per the University's ethical committee, researcher requires to design a consent agreement which safeguards participants stating that their participation is voluntary and withdraw their decision to participate at any time if they wish to do so. Moreover consent agreement provides that the participants can abstain from answering a particular question. Above all, the participants were assured of the confidentiality and data privacy being the main priority and personal information will not be used for any commercial purposes by the researcher or anyone else.

4.11 Summary

The objective of this chapter is to position this study in the domain of general business management and social sciences. The chapter started with introducing the research philosophy, approach and strategies adopted to carry out the empirical examination. Based on the aim and objectives of this study, the positivist paradigm was used. Accordingly an appropriate quantitative research strategy is chosen to carry out data analysis using survey method. Along with this a deductive approach has been incorporated. The research is explanatory in nature which is based on the study characteristics set out in the objectives of the study. The rationale behind using quantitative research strategy is established from previous related studies, gap in the domain of IT outsourcing/offshoring and also to avoid researcher bias due to the professional background of the researcher.

A hypothetical deductive approach is used within an integrated conceptual framework that`s developed with a set of seven hypothesis. The hypotheses are tested using real data gathered by a survey of client firms in Europe engaged in IT offshoring. Here Sekaran's (2000) six essential steps of the research process have been used, namely: the intent of the study is to test developed hypotheses, role of researcher is unbiased and non-interfering, study setting is realistic, analysis unit is individual offshoring client firm(s) in Europe and time frame is cross-sectional. The required sample size has been properly selected keeping the aim and objectives of the research in view.

A survey questionnaire is developed following appropriate steps and operational items adopted from related previous studies. The data is collected using Qualtrics-an online internet based survey tool. Last but not least, for data analysis purposes structural equation modelling (SEM with PLS) examining the structural path model is selected as the appropriate analysis tool relevant to the study. The details on data description and data analysis are presented in the next chapter.

Chapter 5: Data Description and Data Analysis

5.1 Introduction

This chapter presents the data analysis results for the data collected through the survey. The chapter is structured in six sections.

Following the introduction, the outcome of pilot study is presented and discussed in the next section. The pilot was conducted to check the accuracy and authenticity of the questionnaire survey. Section 5.3 talks about the data collection and response rate of the main survey study. It also includes and data description with sub-sections presenting information on the respondents' demographic profiles, data cleansing and purification for missing values, outliers, normality, multicollinearity and existence of bias. Also, the data properties were checked for the purposes of deciding and strategizing on the selection for appropriate analysis techniques for the main study.

Applying screened data, section 5.4 moves towards the inferential analysis of the conceptual framework using path model of Structural Equation Modeling (SEM) and provides the rationale for adopting it. As SEM uses various types of modeling techniques, an appropriate technique selection was justified based on the data properties and nature of study. Hence, this section also discuss on the reasonings for selecting partial least squares (PLS) path model for the study. Next, Section 5.5 discussed on two-Step modelling validation approach applied to validate the conceptual framework. The justification of the measurement model is tested with confirmatory factor analysis (CFA) as a first step. The second step outlines the assessment of the hypotheses in the conceptual framework employing PLS with SmartPLS 3.1.9 professional software application.

5.2. Pilot Study

The pilot study, conducted in November 2013, was intended to assess the vital prerequisites for instrument purification to check the language consistency and wordings, question sequence, easy understanding aspects of the questions, rate of response, time needed to complete the survey response and testing the analysis process fitment (Ticehurst and Veal, 2005). It was intended to assess content authenticity level and accuracy to help confirm that if instructions, scale used to measure intensity and questions are understandable (Sekaran, 2000).

Prior to distributing the questionnaire, wording of questions, overall layout and sequence to establish face validity was thoroughly examined. An introductory form of the survey instrument consequently improved through comprehensive pretesting with academics having proven expertise in the field of operations management research. The survey was refined through various stages of construction and restructuring following literature and discussions with research faculty in the Business School of the University of Bedfordshire (Ticehurst and Veal, 2000; Nunnally, 1978). As most of the questions are adopted from the literature, only a few minor changes were suggested by the pilot respondents that assured the face validity of the survey. The survey instrument, after incorporating the minor changes based on the pilot study is included in Appendix 4.

The pilot was implemented through sending emails (wherever email IDs were available) with including the web link to the questionnaire to 15 firms in the UK and 3 academics specialized in IT/IS operations management within the University of Bedfordshire. Some were sent by post as well as some email IDs did not work or not available. The respondents in the pilot excluded in the main study. Selecting the sample size (15 nos) was based on the literature guidelines that recommends a rather small sample being suitable for pilot study. Evidence from literature revealed that it could be between 10 to 30 (Luck and Rubin, 1987).

Pilot responses: 12 survey responses were received within a month. However, 2 responses had a significant number of missing data and the researcher decided to

exclude them for the purpose of initial analysis. Therefore, the rate of response for the pilot was 80% and the online survey tool revealed that the respondents spent between 11-19 minutes to complete the survey response.

Measurement item reliability assessed with Cronbach's α. The results show that the reliability of all the constructs is above α=0.737 or 73.7%, above the threshold 0.7 recommended in the literature (Nunnally and Bernstein, 1994). Test results are presented in Table 5.1.

Table 5.1: Reliability values of the pilot study

Constructs	**Nos. of measurement items**	**Cronbach's alpha**
Legal Contract	4	0.811
Relationship specific investment	4	0.880
Information/knowledge sharing	4	0.815
Information Security	3	0.737
Trust	8	0.879
Minimise Uncertainty Risk	7	0.876
Outsourcing Success	12	0.916

Upon conducting the pilot, the content validity of the measures were tested with the nature of the feedback received from the respondents. This was particularly helpful as the practitioners and researchers are native English and their understanding of the overall flow of the questions is considered to be good. Therefore, their feedback were taken seriously and necessary changes as suggested by them were incorporated in the final version of the questionnaire survey.

Thereafter, based on the feedback received from the pilot study, the researcher re-phrased some of the questions (RS4 and OS9) that lacked clarity and were complex in nature. Also some of the double barrel questions having multiple questions configured into one single question (LC3, LC4, RS1 and RU1) were re-constructed with one measurement item only for better clarity, in the final version of the questionnaire (Appendix 4).

The changes made to the questions are presented as below.

Item	Original questions during pilot survey	Modified questions based on pilot feedback
LC3	Measurable SLAs/KPIs are clearly enumerated and mutually agreed.	Measurable SLAs are clearly enumerated and mutually agreed.
LC4	Mutually agreed "Rewards" and "Penalty" Clauses are based on SLA/KPI achievements and clearly built into the contract.	Mutually agreed "Rewards" and "Penalty" Clauses are based on KPI achievements and clearly built into the contract.
RS1	The supplier firm has invested in facilities, manpower and technology to better serve the client firm.	The supplier firm has made adequate capital investments in creating relevant facilities to better serve us (the client).
RS4	The supplier firm has also invested in engagement thru providing special facilities, manpower and technology or in other areas to show commitment.	The supplier has invested in adequate manpower and technology to better serve us.
RU1	The supplier company takes care of "Uncertainty Risk" factors (technology, infrastructure, HR, cost, productivity, quality etc.) well ahead of time.	The supplier firm takes care of overall "Uncertainty Risk" factors that can affect the engagement, well ahead of time.
OS9	We have enhanced economies of scale and technical and HR resources.	We have enhanced economies of scale.

As the reliability of items reflected positive outcomes, therefore major changes (addition or deletion of items or categories) were not found necessary. Based on the pilot feedback, the researcher incorporated the minor changes in the survey questionnaire for the main study (Appendix 4).

Main study discussion begins from here with the discussions on total responses received from the surveys conducted in Europe followed by data properties check for its consistency and data analysis performed for validation of the conceptual framework.

5.3. Data description

Upon completing the pilot study successfully, the survey was distributed in Europe. The survey was hosted on Qualtrics and the web link was emailed to the participants representing the client firms (UoA). Also, hard copies of the survey were distributed to various senior management client members who were not comfortable using the web-based surveys. Following Dillman's (2000) methods, five different emails for introducing the research, thank you note to the respondents

and follow-up emails sent. Follow-up emails were sent only to those who did not respond within two to three weeks.

The sample for the data collection chosen from industry database, and the sourcing circle associated with IT offshoring in Europe. A stratified sampling method was used. The main study data was collected from February 2014 to May 2014. A total of 400 survey questionnaires distributed into corporates within various industry sectors in the European region (e.g. UK, Belgium, the Netherlands, Luxembourg, Germany, Switzerland and France).

Main study survey response status*:* The total number of completed surveys received was 146 and the total number of distributed surveys was 400. The average response rate realised was 36%. A total of 7 returned surveys had significant number of missing data with full section(s) un-responded and 3 surveys had significant Common Method Bias (CMB). The researcher, in consultation with existing literature (Sekaran, 2000), decided to exclude them from data analysis. Therefore, 136 surveys (i.e. 93% of the responses received) were finally considered for data analysis stage. While this response rate (34%) was not that high, it was still considered as a sufficient sample size to perform the required analysis for the main study (Hair et al., 2006). The reason for receiving only 34% usable response may be attributed to the nature of senior management individuals in various client firms and their busy schedule combined with priority towards their participation in studies like this.

There was an apprehension that the response rate could have been marginally higher if the questionnaire was made in multiple European languages (e.g. English, French, German and Dutch). This aspect however can't be verified with certainty as most of the client representatives were found to be comfortable to communicate in English as per their email responses and no one raised any objection or concerns due to the language of the questionnaire being English. Therefore, the researcher decided to proceed with English, supported by the literature evidence (Li and Li, 2009) as the questionnaire language for the main study.

5.3.1 Demographic profile of the respondents

The demographic profile of the sample is presented in the Table 5.2. This table presents the profiles of the respondents based on the survey responses received. There was approximately equal number of male and female respondents. Instead, of having age as a category, the researcher focused on their "Job role", as most of the decision-makers at senior management functions (CEO, CIO, COO, CFO, CTO, VP, PM/PMO etc) of various clients (firms) contacted in the sample population. The largest number of respondents were from project managers/project management office (26%) followed by CIOs (24%) and sourcing heads (13%). From the industry sector perspective, the highest response rate was observed within the Financial Services Sector (26%) followed by Telecom (13%) and the lowest was within Media (4%). The leading number of responses in the category of "Countries" were identified with the UK (42%) followed by Belgium (16%). The lowest group was Luxembourg (4%). The category "Annual revenue size" of organisations responding with the largest number of respondents was from $100-$500 million (27%) and fewer were from under $20 million (4%) turnover. The number of respondents within the category of "Annual IT offshoring spend" were quite homogenous.The largest number of responses had been received from $10-$25 million (25%), followed by $25-$50 million (19%) and the lowest was from the over-$500 million group (3%).

The questionnaire has some overlapping categories in the groups of "Annual Revenue size" and "Annual IT offshoring spend". For example, Question 11 in Section B of the questionnaire had boxes for annual revenue categories such as $10M - $20M and $20M - $50M. The issue is that, if a firm had exactly $20M annual revenue, the respondent would have found it difficult to tick one of the two boxes. The researcher realises that such overlapping categories should have been avoided, but fortunately this issue in the questionnaire did not affect the results as the study neither considered these categories (revenue size or spend) as control variables nor focussed on any kind of analysis based on 'Annual revenue size' and 'Annual IT offshoring spend' of clients. Also, as the conceptual framework does not have any element of 'industry sector' or 'Annual IT offshoring spend' or 'Annual revenue

size', there was no need to consider any analysis on the demography group(s). Moreover, none of the survey respondents flagged any concern or issues regarding the overlapping categories in these groups. Therefore, it did not affect the study outcome and objectives. Therefore, in order to simplify the representation, the overlaps within 'Annual revenue size' and 'Annual IT offshoring spend' categories, the summary table (5.2) has been collapsed suitably.

The job titles of the respondents were deemed to be appropriate to be considered as part of the sample. To respond to the question types in the survey, senior management respondents authorised as client firm's representative in IT offshoring, backed with experience in their field were considered to be more reliable than junior rank holders in the same organisation, as per Phillips (1981). Also, as per the research studies of Frohlich and Westbrook (2002), the senior managers with decision making roles backed with 15-20 years of experience in the field of IT offshoring and sourcing know more about experience of the firm(s) that can be taken as a representative view of the client firm. Referring past survey-based research studies the approach was found consistent (Phillips, 1981).

Table 5.2: Demographic details of the respondents

Type	Group	Frequency	Percent
Gender	Male	69	51%
	Female	67	49%
Job role(s)			
	CEO	12	9%
	CIO	32	24%
	COO	13	10%
	CTO	15	11%
	PM/PMO	36	26%
	Sourcing Head	18	13%
	Finance Head	7	5%
	Sales Head	3	2%
Industry sectors			
	Financial Services	35	26%
	Transportation	15	11%
	Retail and CPG	7	5%
	Logistics	12	9%
	Manufacturing	16	12%
	Telecom	18	13%
	Media	6	4%
	Hi-Tech	13	10%
	Others (SME/EPC)	14	10%
Annual revenue			
	over $10B	7	5%
	below $10B	129	95%
Countries			
	United Kingdom	57	42%
	Belgium	22	16%
	France	13	10%
	Netherlands	14	10%
	Germany	16	12%
	Luxembourg	5	4%
	Switzerland	9	7%
Annual IT offshoring spend			
	over $500M	4	3%
	below $500M	132	97%

5.3.2 Handling missing data

Existence of missing data is quite normal in a survey research. It occurs when the respondent leaves a question unanswered or provides an inappropriate answer (Creswell, 2009). This may be due to various reasons: the respondent is not willing to answer; the respondent did not know how to answer; respondent did not actually know the answer; the respondent skipped the question by mistake; or the researcher skipped the answer by mistake to enter into the software database (Saunders et al., 2009).

There are several procedures are available to handle such missing data items. The most easy and common technique is to simply delete any such cases with missing data or to delete those questions with item-wise (Hair et al., 2006). Although, this strategy of omission may certainly help to reduce the degree of bias in a dataset, it often results into a significant reduction in the sample size and number of measurement items available for further analysis (Tabachink and Fidell, 2007).

In this study, out of 136 usable responses obtained, it was revealed that, 129 responses (94.9%) had complete data and only 7 responses (5.1%) had some missing data, which revealed that less than 10% collected surveys carrying missing data issues. The low percentage (5.1%) outcome with missing data reveals that the incomplete data is not cause for any concern in the subsequent data analysis of this study.

To handle the missing data in this study, the researcher chose to use the Hot and Cold Deck imputation approach (Hair et al., 2006). Reason being, there was relatively negligible data missing (<10% for both unit and construct level) and also missing data occurred completely at random. This means, the missing data of the dependent variables are not dependent on the independent variables with no bias in the data of dependent or independent variables.

In the Hot Deck approach, the missing data were replaced by data collected from the most similar participants. On the other hand, in the Cold Deck approach, the missing data were obtained from appropriate secondary sources. The Cold Deck approach was used to complete data missing in the last section of the questionnaire

(Section B) which is related to general demography information about the participating companies. These data were obtained from secondary sources such as Datamonitor and National Outsourcing Association industry reports. Also, because the demography details are not that important in this study for any analysis requirements, other than knowing about the type of client firms participating in the survey research and should there be any need that is realised later (e.g. industry sector wise views on IT offshoring or clients' revenue size wise experience or sub-region wise details etc.).

The Hot Deck approach was used to deal with data missing in parts of Section A of the questionnaire. For the instances where no similar participant profile was detected, the mean value approach was used to replace the missing data (Hair et al., 2006). The Hot and Cold Deck imputation approaches were used because they can provide better options of replacing the missing data compared to other techniques that calculate missing values as the mean of the entire sample (Hair et al., 2006). The missing data imputation approaches used in this research has helped to increase the sample size marginally.

5.3.3 Testing for outliers

The examination of outlier points is quite related to data cleansing. existence of extreme observations that usually have very high or low values for some is an indication of presence of an outlier point (Easterby-Smith et al., 2008). A small number of outliers are expected in any survey studies (Easterby-Smith et al, 2008). The existence of outliers could be an expected variation among population or it be the result of errors in the data transcription (Hair et al., 2006). If outliers are detected, one can decide to forego these or use statistical remedies to eliminate or reduce their influence on the study conclusions (Forza, 2002).

SPSS statistics version 21.0 was used to perform the skewness test and case wise diagnostics outlier test (quartile method and box plots) to detect outliers in this study. The tests detected few outliers, which did not significantly deviate from the remaining set of observations and appeared to be a legitimate part of the study sample. Consequently, the researcher decided to keep these in order to reduce the

risk of limiting the model generalization (Hair et al., 2006; Tabachink and Fidell, 2007).

5.3.4 Normality of data

Normality is considered to be a fundamental assumption in multivariate analysis (Tabachnick and Fidell, 2007). It is worth noting that the metric data collected from the survey was tested for normality using the skewness and kurtosis statistics and a visual inspection of the normal probability plot of the study variables. The assumption of data normality is more likely to be violated if the skewness and/or kurtosis values of the study variables exceed ±1 (Hair et al., 2006; Kline, 1998). When using the normal probability plot to assess the data distribution, the actual distribution of the data is compared against a straight line that represents the perfect form of the normal distribution.

In this study the skewness of variables ranged from -.0389 to -1.578. Hence, the data were found to be negatively skewed and were not normally distributed. The kurtosis, where the distribution is more peaked than the normal, is called leptokurtic, and the distribution that is flat is called platykurtic (Hair et al., 2006, p. 80). A negative kurtosis value demonstrates a flatter distribution and a positive value demonstrates a peaked distribution. The kurtosis values less than ±1 are seen as inconsequential, and values from ±1 to ±10 are seen as moderate non-normality. Greater than ±10 are signs of severe non-normality (Holmes-Smith et al., 2004). In this study, kurtosis values were found in the range of -0.398 to 4.50 and therefore considered as moderately non-normal data.

Based on the above results of skewness and kurtosis values it was revealed that the data collected is **NOT normally distributed**. In other words, not all the variables fall within the normal range of skewness and kurtosis (i.e. < ± 2.58, cf. Hair et al., 2006, p.82**)**. This results calls for looking at options for selecting and using the most appropriate statistical tool for data analysis. The statistical method chosen based on the non-normality of data is discussed in section 5.4. According to Pallant (2010, p. 56), negative or positive skewness and kurtosis do not indicate any problem until as long as they are not completely out of range. Besides this, negative or positive

values of skewness and kurtosis reflect the nature of the construct being measured. In the current study, negative skewed score of a construct reflects its positivity. It also means that the client firms in their survey responses are in agreement than disagreement, in terms of acceptance.

The field of statistics comes in use as it is practically impossible to collect data from all individuals or organisations of interest population (Walsh, 1962). The key is to collect data from a subset (sample) of the individuals of interest, but the real desire is to know the "truth" about the population of interest. Measures such as means, standard deviations and proportions are all important values and are called "parameters" relating to a sample population. When these are calculated from sample data, these quantities are known as "statistics." A statistic estimates a parameter (Walsh, 1962). The parametric statistical procedures depends on assumptions about the shape of the distribution (if a normal distribution is assumed) in the underlying population and also about the form or the parameters (mean values and standard deviations) of the distribution assumed (Rosner, 2000). Non-parametric statistical procedures depend on none or a few assumptions about the shape or the parameters of the population distribution from where the sample was drawn (Conover, 1980).

The austerity of normality depends on size of the sample (Hair et al., 2006). The negative effects of non-normality maybe reduced if sample size is large (Pallant, 2010;Hair et al., 2006). A relatively smaller sample of fewer than 50 may reflect severe non normality as compared to 250. The sample size in this study is 136 and the existence of non-normal distribution therefore is handled by applying non-parametric data analysis techniques.

5.3.5 Multicollinearity

If three or more independent variables are found correlated then the presence of multicollinearity is tested significant based on the value .90 or more (bivariate correlation: Pearson Correlation test). Multicollinearity issue is connected with correlation of variables (Hair et al., 2006; Tabachnick and Fidell, 2007). The relationship between the unique variance and multicollinearity is inversely

proportional. This means higher the multicollinearity, lower the unique variance of explained thereby increasing the prediction level (Hair et al., 2006). This reflects on lowering the contribution of independent variables that are correlated to each other by restraining the size of regression (Field, 2009). Therefore, it is recommended in the literature, to delete one of the correlated variables to realise a better prediction (Tabachnick and Fidell, 2007; Hair et al., 2006).

In order to detect the level of multicollinearity, the following methods are followed (Pallant, 2010):

1. Examining bivariate and multivariate correlation matrix
2. Computing variance inflation factors (VIF) and tolerance impacts.

The tolerance effect depicted by the variability explained by the independent variables as unique, as per Pallant (2010, p. 156), whereas VIF denotes the inverse of the tolerance effect. Larger VIF (< 10) and lower tolerance (> 0.1) indicates the existence of multicollinearity (Pallant, 2010; Myer, 1997; Menard, 2002).

In this study not a single bivariate correlation was found more than 0.8 for the independent variables. Also, the VIF computation reflected 2.926 as the largest and none over 4. This reflects there was an absence of any multicollinearity among the independent variables. The current study reflected that none of the bivariate correlation was above 0.8 for the independent variables. The results depicted the largest VIF value was 2.926 (none were more than 4) which recommends the absence of multicollinearity within independent variables.

Also, the results of tolerance effect showed none were less than .1 and reflects low prospect of multicollinearity. The multicollinearity detection test is primarily used for deciding to drop one or more independent redundant variables for the analysis purposes (Tabachnick and Fidell, 2007). But in this study, the prospect of existence of multicollinearity was not found and therefore the need for deleting any independent variable was not required.

5.3.6 Handling common method bias and non-response bias

Previous studies have shown that Common Method Biases (CMB) and Non-Response Biases (NRB) can be a problem in social science research and also be contributing to significant measurement errors. As per Podsakoff et al. (2003) defined CMB as "*variance attributed to the measurement method as against the construct of interest*" (p. 879). CMB may result from different items due to the content of specific items, general context, response format and the type of scale used (Podsakoff et al., 2003).

The issue of CMB becomes of particular concern when self-reported measures are used to collect data from the same respondent and at the same time for both the dependent and independent measures (Chang et al., 2010). On the other hand, NRB has been defined as "*the differences between the answer of non-respondents and respondents*" (Lambert and Harrington, 1990). It occurs when some targeted entities decide not to respond to the research questionnaire and when the non-responders may differ in some way from those who respond (Forza, 2002). Both types of bias, CMB and NRB, can influence the validity of the empirical research outcomes about the relationships among the measurement of various constructs by inflating or deflating the observed links between constructs (Lindell and Whitney, 2001; Chang et al., 2010).

Appropriate methods and remedies are needed to reduce the potential influences of these biases. In this study, because of the difficulty of obtaining responses from multiple respondents in the targeted companies and obtaining reliable objective data related to the outsourcing practices and performance of client firms, a single respondent per company was used to respond to the items of the developed questionnaire. The respondents hold senior-level management positions and they are key informants on the IT outsourcing activities that are being adopted or planned in their companies. The management positions of these respondents reveal that they are knowledgeable on the main determinants of trust and performance outcomes of IT outsourcing practices under investigation. Using responses of senior level managers is consistent with existing related studies

(Frohlich and Westbrook, 2002; Villena et al., 2011; Khan and Niazi, 2012) which suggest that these managers will have the required knowledge to respond on issues related to IT outsourcing practices of the client firm.

Because a single respondent per company was used in this research, the collected data are likely to be affected by CMB (Lindell and Whitney, 2001; Chang et al., 2010). Numerous remedies were proposed in previous studies to address, control for or reduce the potential influences of any sources of CMB, especially those caused by single-respondent bias. Remedies to control for CMB can be classified into two approaches namely: statistical remedies and procedural remedies (Podsakoff et al., 2003; Chang et al., 2010). In the procedural approach, researchers try to minimise or eliminate the source of bias through the design of the survey or by obtaining objective measures of the predictor variables from different sources (Hair et al., 2006). Accordingly, in this research, three dummy questions were added in the final draft of the questionnaire (see table 5.3).

Table 5.3: List of dummy items used to check for the existence of common methods bias.

Dummy items	Matched measurement items
Our supplier is willing to provide assistance to us without exception (TS6).	We and our supplier have friendly relations (TS8).
We and our supplier solve most problems together in a collaborative way to reduce probability of uncertainty risk (RU5).	We and our supplier are interested in each other's problems and solving them to reduce risks of uncertainties (RU7).
We have enhanced our IT competence (OS7).	We have increased access to skilled personnel (OS8).
The overall relationship was healthy & mutually beneficial experience (OS2).	We had pleasant and satisfying experience with the supplier firm (OS5).

Based on this, it was checked if respondents provided similar answers to these questions. The surveys that provided different responses for two or more dummy items were eliminated from further analysis. CMB was also reduced by following a systematic questionnaire design (Chang et al., 2010). This included questionnaires being sent with a reminder that it should answered by the manager in charge of IT

outsourcing management in the company; terminologies used in the questionnaire were simplified to the maximum level possible; and confidentiality of the respondent and the data provided were assured (appendix 4). The results showed that CMB was detected in three of the returned questionnaires and, thus, the researcher decided to exclude these from further analysis.

The second approach of detecting CMB can be considered as statistical remedies, in which researchers try to assess the extent to which CMB could be a problem (Lindell and Whitney, 2001; Podsakoffet al., 2003). There are various statistical methods to control for CMB, but extensively used approach is **Harman's single-factor test** is the most (Malhotra et al., 2006; Podsakoff et al., 2003). In Harman's single-factor test, factor analysis is performed on all variables. Subsequently, CMB may exist under certain conditions like:

1. appearance of a single factor from un-rotated factor solutions, or
2. majority percentage of covariance explained by the first factor (Podsakoff et al., 2003).

Accordingly, the researcher conducted the un-rotated factor analysis, i.e. principal component analysis taking eigenvalue greater than 1 and it revealed seventeen different factors. Also, it revealed that the first factor explains only a fraction of the variance (**30.78%**). Hence, no general or single factor is apparent, which indicates that CMB is unlikely to affect the final results of this study.

Also, it should be ensured that the collected sample is a uniform representation of the sample population. Incompetence or refusal may cause reduction of sample size thereby may affect the validity of sample to represent the population. In the current study such a problem never existed as most respondents are senior management professionals representing the client firms and no one refused to respond. In such cases the results from such data may always have a bias (Saunders et al., 2012). The response rate in this study is considered to be effective considering the population sample which assures response bias is not an issue (Weiss and Heide, 1993). Another important point is suggested by Churchill (1979)

and Armstrong and Overton (1977), states the frequent existence of NRB when the respondents differ considerably from each other.

NRB can affect research credibility in terms of its findings. This is because non-respondents change the sample frame and thus can lead to having a sample that does not accurately represent the population. This in turn can limit the generalisability of the research findings (Lambert and Harrington, 1990). There are several methods to identify and control for the potential effects of NRB. The most common protection method against the NRB is striving to increase the level of response (Lindell and Whitney, 2001). Different ways to increase the response rate have been employed by the researcher. These include sending introductory letters in advance; making advance phone calls; attachment of a personalised cover letter into the questionnaire; non-monetary incentives (i.e. participating firms will receive the executive summary of the research findings); promise of confidentiality of the information provided, using various communication approaches based on the preferences of the respondents; and making several follow-up reminders.

In this study, the eventuality of any possible NRB was measured by determining the difference through Paired Sample T-test, with SPSS Version 21.0, between two groups based on their response dates (first 60 vs last 60 responses), tested for first and last five questions (Lambert and Harrington, 1990; Armstrong and Overton, 1977; Weiss and Heide, 1993). The early set of respondents was compared with the late set respondents. This technique works under the assumption that late respondents to the survey are most likely to resemble the non-respondents (Armstrong and Overton, 1977; Carter, 2005). The results of Armstrong and Overton's (1977) test revealed no significant differences between the two sets ($p>.05$) when comparing the mean values of the first and last 60 responses.

The results reflected insignificant, therefore there is no significant difference between early and late respondents statistically. Additionally, the response variations between early and late respondents were checked performing a chi-square test on four demographic variables and no statistically different result was obtained. Therefore, NRB is not existent in the current study.

Thus, after performing appropriate tests on data properties for the missing data, detecting outliers, normality of data, multi-collinearity of variables, common method bias and non-response bias, the data analysis for the main study is presented in the next section.

5.4 Data analysis

In order to test the conceptual framework, the researcher employed structural equation modelling (SEM) using partial least squares (PLS) with SmartPLS software (version 3.1.9). Reasons for adopting SEM and particularly selecting PLS approach are elaborated in the subsequent sections.

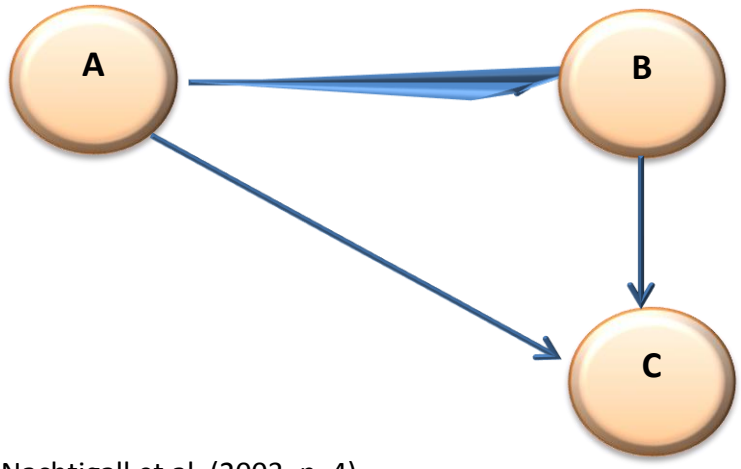
5.4.1 Basics of SEM

SEM according to Tabachnik and Fidell (2007) is the gathering of statistical techniques which facilitate to view the theory and associated data together, also well-known as causal analysis and modelling, analysis of covariance structure, simultaneous equation modelling, and analysis of path or confirmatory factor (Tabachnick and Fidell, 2007, p. 676). Various SEM techniques such as Covariance-Based modelling like Linear Structural Relations (LISREL) and Analysis of Moment Structures (AMOS) and Variance-Based/Component-Based modelling (Partial Least Squares) are the second-generation data analysis techniques (Bagozzi and Fornell, 1982). On the other hand, the first-generation tools like Regression (Factor Analysis, Linear Regression, ANOVA, MANOVA and PCA) that are used to analyse just one layer of relationship among the dependent and independent variables. But SEM permits the researcher to model multiple-layer relationships among a set of dependent and independent variables, concurrently (Hair et al., 2006; Gerbing and Anderson, 1988; Chin, 1998a; Gefen et al., 2000).

Rigdon et al. (2010); Hair et al. (2006); Barbara (2001) stated that SEM succeeds previous statistical apparatuses by enabling to model intricate relationships, tackle multicollinearity, execute confirmatory factor analysis, including observed and unobserved variables, and ultimately to approximate measurement error variance (unreliabe and random) in order to evade any bias of the researcher.

In SEM, 'structural relation' denotes the core concept of SEM for dealing with the relationships among latent variables as per Nachtigall et al. (2003). These relations are typically expressed through equations of linear regression, expressed through graphs in path diagrams using arrows (as in figure 5.1).

Figure 5.1: A model of the regressive dependencies between three variables, depicted as a path diagram



Source: Nachtigall et al. (2003, p. 4)

A simple multiple linear regression of C on A and B and linear regression of B on A, is depicted in the above path diagram. SEM is oriented towards handling the entire structural relation rather than only dealing with just single or multiple regressions, making the technique more flexible. **A similar structure is also visible in the conceptual framework of this study, where there is a triangular relationship among three constructs** (trust, minimise uncertainty risk and outsourcing success) depicting consequences of trust building.

SEM integrates two related models as designed by the researcher. These two interconnected models are namely: the measurement model and structural model as confirmed by Gefen et al., (2000). In SEM, the measurement model is popularly called as Confirmatory Factor Analysis (CFA). While the structural model also known as regression or path analysis identifies the hypothetical relationship among the latent variables (Gefen et al., 2000; Hair et al., 2006). The nature of latent variable

can be exogenous nature (independent variable) or endogenous (dependent variable) in the model (Hair et al., 2006).

In SEM, the conceptual framework is examined applying a two-step approach (Anderson and Gerbing, 1991; Henseler et al., 2009):

1. Measurement model or outer-model and
2. Structural model or inner-model

In the first step the inner-model is examined through establishing accuracy tests and psychometric reliability for the measurement items. CFA evaluation is recommended when a dependent variable converts into an independent variable (Tabachnick and Fidell, 2007). The second step is performed to examine the outer-model through a multiple regression technique.

5.4.1.1 The practical considerations for SEM

SEM is an overall modeling technique used to depict a great number of statistical models to assess validity of proposed theories having practical data. Statistically, it is an addition of general linear modeling (GLM) processes, like ANOVA and multiple regression analysis. One of the key merits of SEM against other applications of GLM is that, it can assist in studying relationships amongst latent constructs revealed by multiple measures. SEM is also applicable to both experimental and non-experimental data, as well as to the cross-sectional and longitudinal data. SEM applies a hypothesis testing method to the multivariate analysis of a structural theory, that specifies causal relations amongst multiple variables. As recommended by Kline (2005), usually the inter-variable causal pattern of relations in the theory is always considered a priori.

The intention of analysis is to scrutinize if a hypothesised conceptual framework is reliable with the data gathered to echo this theory. Therefore, SEM was found to be the most appropriate method for the analysis purposes. Apart from this, SEM relies on model complexity, estimation method and the distributional features of observed variables as observed by Byrne (2000); Kline (2005).

In particular SEM has certain special features like causal modeling, covariance structural and path analysis. In principle, SEM includes two models such as:

1. Measurement model
2. Path model.

5.4.1.2 Various methods in SEM

There are various types of method in SEM that researchers have used in their studies. The covariance-based SEM (CB-SEM) methods are demonstrated by products like LISREL, EQS and AMOS .Another method known as PLS has become popular with researchers in recent years for operations management, supply chain and social research.(Peng and Lai, 2012). Therefore, the researcher decided to use the SEM technique employing PLS by utilising SmartPLS Professional version 3.1.9 software.

5.4.2 PLS approach to SEM

The PLS approach to SEM has come to be extensively implemented in research fields related to business such as IS, marketing and consumer behaviour (Peng and Lai, 2012). As a SEM method, PLS is faced with disputes regarding its pros and cons and under which circumstances it needs to be employed. Advocates of PLS (Rigdon et al., 2010; Ringle et al., 2015; Gefen et al., 2011) reveal that it has the potential to predict research frameworks utilizing small samples without having rigid distribution requirements enabling it to model formative and reflective constructs included in the same framework. PLS also evidently evades the improper and factor inability of CB-SEM (Chin, 1998b).

5.4.2.1 PLS overview

PLS path modeling is an approach to SEM applied in last several years in the disciplines of psychology and the social sciences and also in business disciplines like marketing (Fornell and Bookstein, 1982) and information systems (Chin, 1998b). Wold in the 1960s introduced PLS (Wold, 1966), was later revitalised in the information systems domain by Chin (Hair et al., 2014; Chin, 1998a,b; Chin et al., 2003).

Similiarly like other SEM techniques, PLS facilitates fixed relationships between one or multiple independent variables and one or multiple dependent variables to be evaluated in a integrated model. In the past, regression required distinct regression equations to analyse hypothesised relationships, but in modern times PLS facilitates the system of equations to be analysed consecutively. Moreover PLS and similar SEM techniques permit for analysing directly the latent and measured variables. As PLS is related closely with the analysis of latent constructs, often it has been used in survey centred studies (Lee et al., 2011). Some popular PLS software tools include PLS-Graph and SmartPLS, among others.

In order to use PLS as a technique of data analysis, it is necessary to comprehend how the estimates for the measurement and structural model are computed. PLS path models are predicted through combination of techniques like ordinary least squares regression, principal component and path analysis. In a PLS path model, latent variables (LVs) are clearly stated as linear arrangements of their observed indicators. This contrasts to the covariance-based approach of SEM where estimate scores for the underlying latent variables not clearly measured. Algorithm of PLS endeavours to achieve accurate estimates for the latent variables which depend on the following:

1. Its indicators which are the measurement or outer model
2. Relationship of the latent variable's to other latent variables like the structural or inner model.

5.4.2.2 Rationale for adopting PLS approach as compared to CB-SEM approach

Prior to evaluating the conceptual model, it is vital to enumerate the justifications and importance for applying component or variance underlying SEM technique like the PLS for data analysis. Here it is necessary to differientiate between the two comprehensive categories of SEM techniques such as Covariance-Based SEM like LISREL, EQS, AMOS, and Variance or Component underlying SEM like PLS Graph,SmartPLS and PLS. The need for distinguishing amongst these techniques is not for identifying the most precise, it is to explore their applicability within the present study.

In the present study, justifications for incorporating PLS are elaborated as follows.

Research objectives (confirmatory as opposed to exploratory): PLS intents to examine the degree to which one portion of the study model forecasts amounts of other portion of the model.This views that PLS is prediction-based (Hair et al., 2014; Fornell and Bookstein, 1982; Vinzi et al., 2010) and on the other hand the CB-SEM estimates the comprehensive research based model producing suitable statistics and explaining how soundly the data collected emperically conforms into the hypothetical model.

Sample size: Sample size is essential as per Shah and Goldstein (2006) in SEM as it influences the overall dependability parameter estimates, model fitting and the statistical command of the SEM technique. The sample size that CB-SEM recommends is examining the sample size ratio to the quantity of parameters estimated in totality and on the other hand the sample size for PLS recommends the examining of sample size ratio to the most complicated relationship (which is sample size of 10 times the most complex relationship) within the model according to Shah and Goldstein (2006).

As the current conceptual framework involves simply reflective constructs, the most complicated relationship is the dependent variable (trust) with the maximum amount of independent variables affecting it; these are 4 in this study. Therefore, the smallest sample size prerequisite is as little as 40 (10 ×4 = 40), thereby PLS is applied to assess the conceptual framework, presuming necessary conditions are met like sufficient effect sizes, adequate number of items for each variable, and with reliable variables.The CB-SEM rules for sample size requirements normally ranges from 5 as per Tanaka (1987) to 20 as per Bentler and Chou (1987) multiplied by the quantity of parameters predicted.

Data properties: CB-SEM necessitates a multivariate normal distribution of the sample data and Non-normal data can result in underestimating standard errors and inappropriate goodness-of-fit statistics (MacCallum et al., 1992). However a larger sample size resolves this issue reduced (Lei and Lomax, 2005). Normal

distribution is usually not achieved in social and management science areas thereby limiting the application of CB-SEM.

On the other hand, PLS is usually not rigid about the data distribution presumptions. It's not necessary to have a multivariate normal data distribution requirement in PLS. As it's a regression oriented tool, it needs only needs assumptions of OLS data distribution.

PLS practises a bootstrapping process as observed by Chin, 1998b to estimate standard errors and the importance of parameter estimates. He suggests for re-sampling 500 times. Bootstrap samples mentioned in modern literature have enlarged in value and number in the past years and samples (>500) should be produced currently due to advanced computing systems.The typical setting in a popular PLS software like the SmartPLS version 3.0, is to re-sample 300 times. According to Peng and Lai (2012) enhancing the quantity of bootstrapping samples does not automatically enhance information in the data but it decreases random sampling errors generated from the bootstrap process.

Model/framework complexity: The entire intricacy of the research model is directly proportional to the adequacy of the sample size in CB-SEM; however this is not the same in PLS. The measurement model in PLS is tested through an iterative process utilizing an algorithm in two separate blocks which is in contrary to CB-SEM. The estimation process engaged by PLS permits researchers, if the sample size is sufficient to estimate the most complex model.

Thus, in this study the researcher considered using PLS as the research framework is complex enough and may lead to estimation errors in case of CB-SEM.

5.4.2.3 SmartPLS (v. 3.1.9)

PLS-SEM has evolved as a statistical modeling technique and its application increased considerably in recent years within a variety of disciplines primarily due to identifying PLS-SEM's unique methodological characteristics making it a viable option to the popular covariance-based SEM approach (Hair et al., 2014). SmartPLS is one of the leading statistical software tools for PLS-SEM and helps researchers to

test their models/framework; also, using this tool, more than 1,000 papers were published in the past two years (Ringle et al., 2015).

The researcher used the following tests/techniques of SmartPLS tool to validate the conceptual framework and thereby obtained the results that are reported in the following sections.

5.4.2.3.1 PLS algorithm

The PLS path modelling method was developed by Wold (1985) and its algorithm is basically a sequencial regressions with weight vectors (Henseler et al., 2009). The weight vectors achieved at convergence as per Dijkstra (2010) fulfil fixed point equations. The core PLS algorithm, as recommended by Lohmöller (1989), incorporates the following stages.

Stage 1: Iterative estimation of latent variable scores, entailing a four-step iterative process:

- Scores for outer approximation of the latent variables,
- Inner weights estimations
- Scores for inner approximation of the latent variables,
- Outer weights estimations

Stage 2: Outer weights estimation

Stage 3: Location parameters estimations

5.4.2.3.2 Bootstrapping

The speciality of PLS-SEM is that it doesnt presume that the data is normally distributed. This indicates that significance tests of parametric used in regression analyses are enable to be applied to examine if the coefficients like outer loadings, path coefficients and outer weights are important. As an alternative, PLS-SEM relies on a non-parametric bootstrap procedure (Efron and Tibshirani, 1986; Davison and Hinkley, 1997) to test the significance of the estimated path coefficient values in PLS.

In bootstrapping procedure, subsamples are created through randomly drawing observations from the original data replacing with another set of data from the sample. The subsample is thereafter used to estimate the PLS path model. This process is repeated until a large number of random subsamples are generated, usually 5000 numbers.

The parameter estimates (e.g. outer loadings, path coefficients and outer weights) estimated from the subsamples that are used to derive standard errors for the estimates. With this information, t-values are calculated to assess each estimate's significance.

5.4.2.3.3 Blindfolding

Further to assessing the extent of the R^2 values as a condition of predictive accuracy, researchers also can examine Stone-Geisser's q^2 value (Stone, 1974; Geisser, 1974) as a condition of predictive relevance. The q^2 value is achieved using the blindfolding procedure. The blindfolding procedure is applied to only latent constructs with a reflective measurement model requirement.

Blindfolding is samples reusing technique beginning with the first data point and overlooking every d^{th} data point in the endogenous construct's indicators. Following the process estimates the PLS path model parameters by utilizing the residual data points. The omitted data points are seen as missing values and treated consequently when implementing algorithm by replacing the mean value. The estimates produced are used to foresee the omitted data points. The difference between the omitted data points and the predicted ones is subsequently used as input for the q^2 measure.

Blindfolding is an iterative process. In the next iteration, the algorithm begins with the second data point and omits every d^{th} data point and continues as described earlier. After d^{th} iterations, every data point gets omitted and the model is re-estimated. When PLS-SEM shows predictive relevance, it precisely predicts the data points of indicators in reflective measurement models of endogenous constructs and endogenous single-item constructs. However the same process is not followed in case of formative constructs. In the structural model, a q^2 value bigger than zero

for a certain reflective endogenous latent variable infers the path model's predictive significance for the certain construct.

5.5 Analysis technique and results

The SEM technique employing PLS is utilised in this study. Similar to other SEM techniques, PLS permits the synchronized examination of theory using the structural model and measures using the measurement model.

5.5.1. Measurement model analysis and results

Measurement model is the initial step for examining the model and uses CFA to estimate the dependability (Cronbach's α and composite reliability) and validity (convergent and discriminant) of the model. Besides this, measurement or outer-model uses factor analysis to examine the depth that the observed variables are loaded with associated elemental construct as viewed by Chin (1998).

The conceptual framework was designed from the finely developed and sufficient theoretical research in supply chain, marketing, social sciences and information systems, not requiring measurement re-assessment as suggested by Hair et al. (2006).

While the outer model or CFA is recommended for accepting the elementary relationship in case of the observed variables with inherent factors, noted by Barbara (2001). The criterion for the measurement model fitting is shown in table 5.4; thereby establishing the platform for the second objective.

Table 5.4: Criterion of assessment of the measurement

Criterion	Description	Acceptable fit
Construct reliability/Composite Reliability	Is the measure of internal consistency (Werts et al., 1974)	Value > 0.6 (Hair et al., 2014; Bagozzi & Yi, 1991)
Construct reliability/Cronbach's α	Measures the indicators uni-dimensionality (inter-correlation) with their latent construct (Cronbach, 1951)	Value > 0.6 (Hair et al., 2014) and Value > 0.8 or 0.9 is better (Nunnally & Bernsein, 1994).
Indicator Reliability	Is the absolute standardised outer loadings. It indicates the variance explained by the observed variable towards underlying latent construct (Churchill, 1979).	Value > 0.7 is better (Henseler et al., 2009), and Value > 0.4 is acceptable (Hulland, 1999; Churchill, 1979).
Convergent validity	Is the degree to which two measures of the same concepts are correlated. It is demonstrated by the unidimensionality using average variance extracted (AVE). Fornell & Larcker, 1981.	Value > 0.5 (Fornell & Larcker, 1981; Hair et al., 2014).
Discriminant validity (Construct level)	Is the degree to which two conceptually similar concepts are distinct (Hair et al., 2006). It ensures that each latent variable shares more variance with its own block of indicators than that with another latent variable.	Square root of AVE > latent variable correlation (Fornell & Larcker, 1981; Hair et al., 2014).
Discriminant validity (Item level)	Is the degree to which two conceptually similar concepts are distinct from each other (Hair et al., 2006)	Loadings of each indicator > cross loadings (Chin, 1998; Gotz et al., 2010), and Cross loadings < 0.4 (Hair et al., 2014).

5.5.1.1 Reliability analysis

Following the exploration of the detailed features of respondents' demographic profile it was important to review the manner of how the respondents replied the survey questions and items associated to the constructs outlined in the conceptual framework (Chin, 1998a). Assessing the questions given in the survey questionnaire is also termed as investigation of psychometric properties requiring adequate reliability and validity of the measures (Hair et al., 2014; Churchill, 1979).

The term reliability is frequently applied in couple of cases: firstly for assessing stability for measuring a single variable between the number of measurement items. This is also called the spilt half method observed by Hair et al. (2006). Further

it is the association between the same score of the respondent's on the same measurement item on two different times, which is also known as test-retest as per Ticehurst and Veal (2000). The accuracy, bias free and consistency is facilitated by the reliability of scale and is connected to the replicability of measurement instruments across time frame and sample.

Table 5.5 provides brief summary results for the reliability analysis for all the constructs. Three measures of internal consistency or reliability used are: The Cronbach's alpha (α), average variance extracted (AVE) and composite reliability. There are various statistical methods available for the reliability measure like: test-retest, spilt-half and Cronbach's α (McDaniel and Gates 2006; Bagozzi 1984). However, Cronbach's α coefficient method was selected for this study for it being accepted and well used in the acedemic studies (Cronbach, 1951; Tabachnick and Fidell, 2007; Nunnally, 1978). **A minimum value of 0.70 is considered acceptable for a Cronbach's α** test. A value of 0.60 is considered appropriate for any newly developed scale (Sekaran, 2000; Nunnally, 1978; Robinson et al., 1991). Table 5.5 shows that the composite relaibility values are in acceptable range for all contructs.

Another measure of reliability index is composite reliability. Very much unlike Cronbach's α, it is not based on equally weighted measures, making the alpha value tend to be lower-bound estimates of reliability measure. The literature **recommended lower bound for composite reliability is 0.7** (Chin, 1998b; Gefen et al., 2000).

The other measure of reliability often used is average variance extracted (AVE). This measure is revealed to be more conservative than composite reliability. **The literature recommended minmum acceptable value AVE is 0.50**, indicating 50% or more of the variance being explained by the latent variable indicators (Fornell and Larcker, 1981; Chin, 1998b). Table 5.5 shows that the AVE values are in acceptable range for all contructs.

Hence all the reliability values were found more than acceptable bench marks as per the literature high proving that scale showed adequate reliability.

Table 5.5: Reliability analysis for all constructs

Construct(s)	Cronbach's α (min≥ 0.70)	Composite reliability (min≥ 0.70)	AVE (min≥ 0.50)
Legal contract	0.797	0.864	0.615
Relationship specific investment	0.768	0.851	0.589
Information and knowledge sharing	0.842	0.894	0.679
Information security	0.745	0.855	0.663
Trust	0.805	0.872	0.630
Minimise uncertain risk	0.732	0.848	0.651
Outsourcing success	0.828	0.879	0.592

5.5.1.2 Validity analysis

Validity tests are performed to assure that the findings arrived through the instrument for data collection characterise real representation of the notion and facts (Hair et al., 2006; Bryman and Bell, 2007; Collis and Hussey, 2009). This test is also performed to test the validity of previously acknowledged theory (Bannister and Mair, 1968). Usually in social science and management disciplines it is used to test the instrument accuracy.

Construct validity tests the accuracy of scale of measurement used in the instrument. This performed through three sub-magnitudes namely: the content validity, convergent validity and discriminant validity.

The face validity is also known as content validity and is performed through the qualitative assessment of relationships between construct and the corresponding items via ranking by pre-tests, experts, academics and with practitioners of various related sub domains (Hair et al., 2006, p. 136). The content validity check is considered as starting point of establishing relationship between construct and its measurement items. Unfortunately a formal statistical test is not available to verify the content validity (Garver and Mentzer 1999, p. 35). The content validity in this study is improved by a thorough systematic literature review (Boland et al., 2013), establishing linkage to theory, and preliminary review of the conceptual framework and the survey by academics and practitioners in the IT offshoring domain.

Convergent validity is tested by examining individual loading values for each block of indicators signifying the strength of items (in a scale) to converge together as a single construct. This assessment is performed by investigating the individual loadings of each scale item on its latent variable. As recommended in the literature, the **standard loadings to be greater than 0.707** for it to be appropriate (Fornell and Larcker, 1981). However, as per Chin (1998b) a lower bound of 0.50 or 0.60 may be sufficient. Table 5.6 presents a list of range of standardised loadings for each construct and the values are found acceptable.

Table 5.6: Convergent validity for all constructs

Construct(s)	**Factor loading range (New scale : 0.50 acceptable; Chin, 1998b)**
Legal contract	0.706 - 0.824
Relationship specific investment	0.734 - 0.830
Information/knowledge sharing	0.784 - 0.865
Information security	0.738 - 0.860
Trust	0.777 - 0.803
Minimise uncertain risk	0.750 - 0.839
Outsourcing success	0.757 - 0.785

Discriminant validity test is performed to measure the extent of discrimination of items of one construct with another. One method to measure the discriminant validity is by comparing the average variance extracted (AVE) to the square of the correlation between the constructs. Discriminant validity is considered to exist if AVE value is greater than the square of the correlations value. The other way to test this if the square root of AVE is larger than the correlations between constructs in the model (Koufteros et al., 2001; Chin, 1998b; Fornell and Larcker, 1981; Koufteros, 1999).

Table 5.7 presents the discriminant validity is a structured way. It reflects the correlations between the variables, including the square root values of AVE diagonally. It revealed that the square root of AVE is greater than the correlation among the latent variable measures. The table also reflects none of the constructs sharing higher variance with any other construct than with its own indicators, thereby exhibiting the existence of satisfactory discriminant validity.

Table 5.7: Discriminant validity

Construct(s)	Information security	Information / knowledge sharing	Legal contract	Minimise uncertain risk	Outsourcing success	Relationship-specific investments	Trust
Information security	**0.814**	-	-	-	-	-	-
Information / Knowledge sharing	0.653	**0.824**	-	-	-	-	-
Legal contract	0.473	0.393	**0.784**	-	-	-	-
Minimise uncertain risk	0.732	0.596	0.470	**0.807**	-	-	-
Outsourcing success	0.734	0.632	0.487	0.759	**0.769**	-	-
Relationship specific investments	0.648	0.586	0.518	0.701	0.658	**0.767**	-
Trust	0.777	0.650	0.479	0.787	0.706	0.673	**0.794**

Figures 5.3 and 5.4 provide details for the measurement models, including the PLS algorithm run screen shot and Bootstrap screen shot.

Figure 5.2: PLS Algorithm runs screen shot with loading figures.

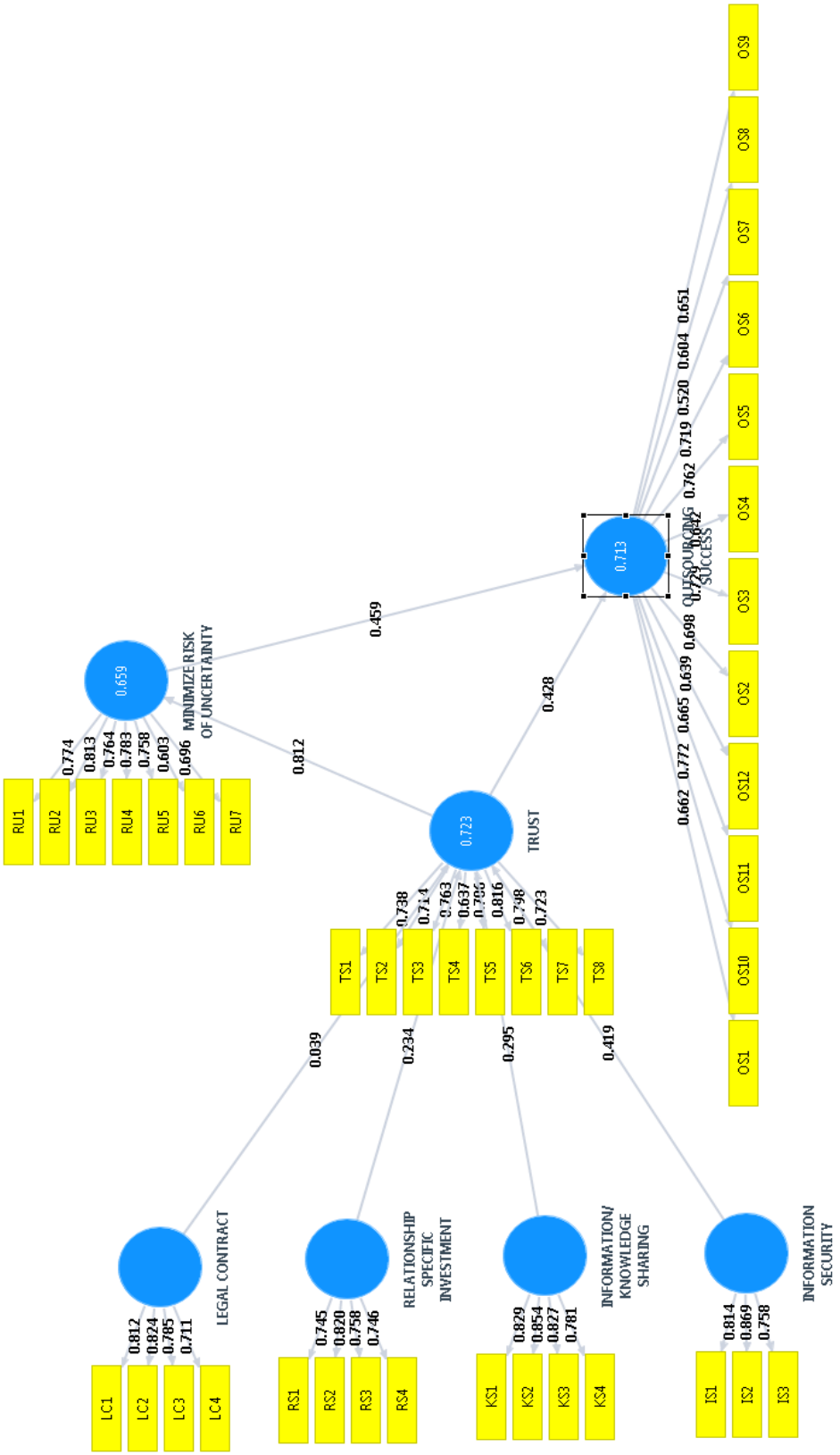
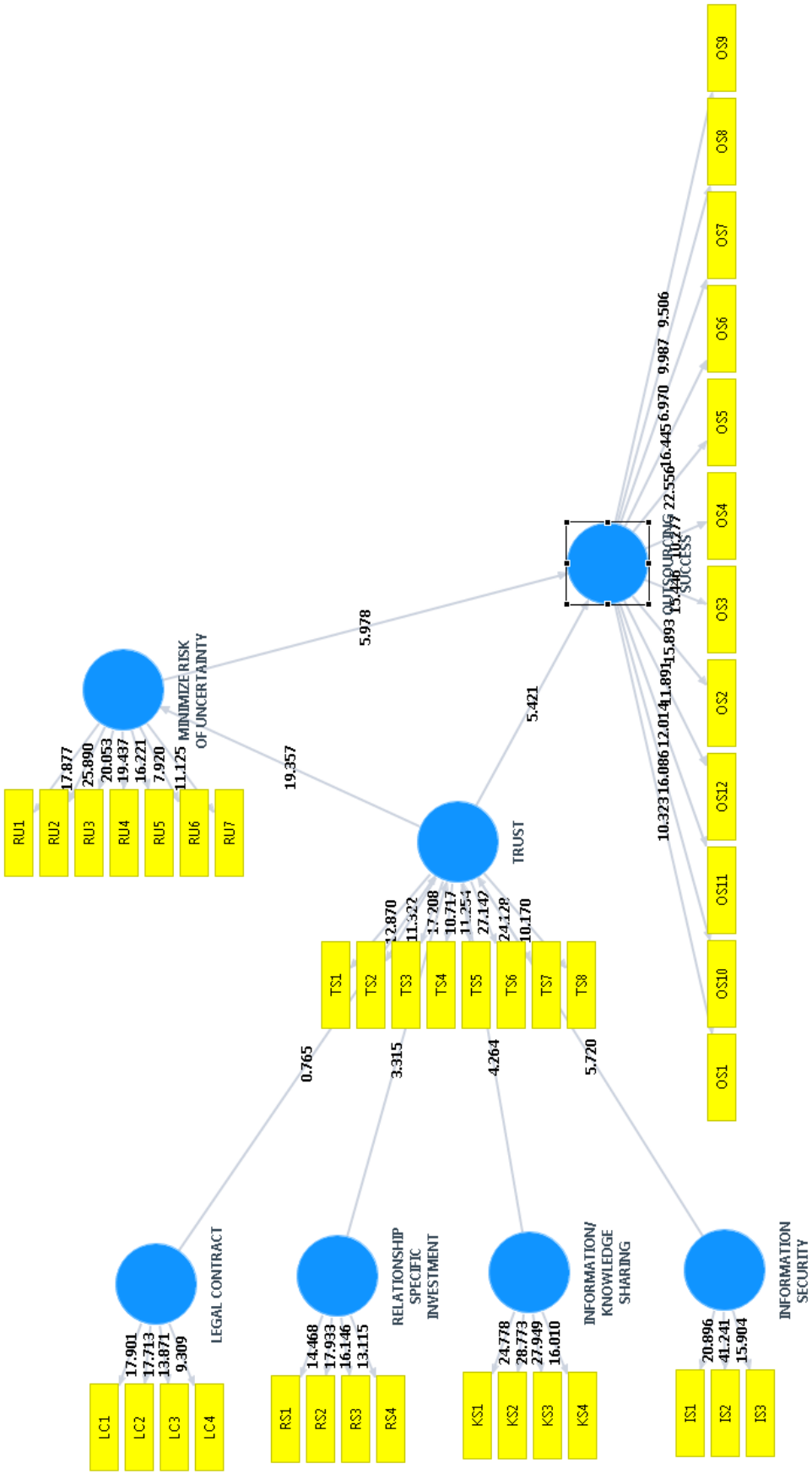


Figure 5.3: Bootstrap run screen shot with loading figures.



5.5.2. Path model analysis and results

Upon successfully validating the measurement model as a first step, the next step is to assess the structural model. This is conducted in order to examine the presumed covariance linear and causal relationship among both dependent and independent latent variables. The assessment of paths (hypothetical relationships) are done through a set of structural equations representing theoretical model (Chin, 2010). However, **PLS does not support the examination of goodness-of-fit of the model**. Hence, non-parametric tests are used to examine the overall model fit. The structural model is evaluated based of the following principles as recommended in the literture (Chin, 2010; Gotz et al., 2010; Tenenhaus et al., 2005 Henseler et al., 2009;):

1. Path coefficient (β) estimation
2. Estimation coefficient of determination (R^2) for dependent variables
3. Estimation of effect size (f^2) and
4. Estimation of prediction relevance (q^2).

The definition and brink value for each principle is presented as below and also discussed in detail in the later sections.

Table 5.8: Criterion of assessment of the structural model

Criterion	Description	Acceptable fit
β (path co-efficient)	Is measure of the multiple correlation coefficients between exogenous and endogenous variables (Tabachnick and Fidell, 2007). The value evaluated in terms of sign, magnitude and significance (t- test).	The value t=2.58 p<.01, t=1.96 p<.05, and t=1.64 p<.10(Hair et al., 2014, p. 390), and t=2.326 p<.01 (Keil et al., 2000, p. 312)
R^2 (variance explained) of endogenous(dependent) & endogenous (latent variable)	Is coefficient of determination that is measures of how much variability in outcome is accounted by the exogenous (independent) observed variables (Tabachnick and Fidell, 2007; Hair et al., 2006). This is quite similar to squared multiple correlation (SMC) coefficient into covariance-based approach	The value 0.67, 0.33, 0.19 are considered substantial, moderate, and weak, respectively (Chin 1998)
F^2(Effect size)	It is measure of representing the ratio of the improvement in the prediction that results from the fitting the model (Tabachnick and Fidell, 2007).This is calculated by $f^2 = (R^2_{incl} - R^2_{excl})/ (1- R^2_{incl})$ (Cohen, 1988) towards underlying latent construct (Churchill, 1979).	The value 0.02, 0.15 and 0.35 are considered weak, medium and large effect, respectively (Cohen, 1988; Chin, 1998).
q^2 (Prediction relevance)	This is an assessment of model's capability to predict R^2 through sample reuse/cross-validation (Henseler et al., 2009), calculated using $q^2 = (F^2_{incl} - F^2_{excl})/(1- F^2_{incl})$.	The value 0.02, 0.15, and 0.35 are considered weak, medium and large effect, respectively (Chin, 1998)

5.5.2.1 Structural estimates

Path estimation is also termed nomological validity which is used in this study with the objective of examining the significance of the path relations in the inner-model (Chin, 1998). The regression coefficient (β) test is used to evaluate the underlying path relationships (hypothetical relationship) in the conceptual framework. The significance measure of β is based on the t-value, tested through Bootstrap method of SmartPLS v. 3.1.9.

Table 5.9 reveals that from the seven paths representing seven hypotheses, only one tested insignificant and the rest six tested significant. The screen shots are given in figures 5.2, 5.3 and 5.4 (overall graphical view of the result).

Accordingly, results of PLS analysis a fairly high significance for path relationship (p<.05) is tested between "Information security" and "Trust" (β=0.489 or 49%; *t*=

5.041) supporting hypothesis H4. The next significant path which was supported (p<.05) was between "Relationship specific investment" and "Trust" (β=0.218 or 21%; *t*= 2.282) but came as one level lower than "Information security". Thus, Hypothesis H2 was also supported by the test. The other significant path that was supported (p<.05) is between "Information/knowledge sharing" and "Trust" (β=0.178 or 18%; *t*= 2.108). Hence, H3 was also supported by the test. However, **the least significant path (p >.05) is between "Legal contract" and "Trust" (β=0.065 or 6.5%; t= 0.925) reflecting H1 not supported**.

The path from "Trust" to "Minimise uncertainty risk" was found highly significant with the highest value of *t*= 21.009 with p<.05 (β=0.787 or 79%). The path of "Minimisation of uncertainty risk" to "Outsourcing success" is also found significant (β=0.532 or 53% and *t*= 5.414) with p<.05, suggesting support for hypothesis H6. Further, the path from "Trust" to "Outsourcing Success" has also been tested as significant (β=0.288 or 29% and *t*= 2.644) with p<.05, which, therefore, supports hypothesis H7.

Table 5.9: Structural estimates

Path/Hypothesis	Coefficient (β)	t- stat	Confidence interval low	Confidence interval up	P values	Significant at 5% level or lower?
Legal contract -> Trust (H1)	0.065	0.925	-0.045	0.224	0.355	No
Relationship specific investment -> Trust (H2)	0.218	2.282	0.041	0.409	0.023	Yes
Information/knowledge sharing -> Trust (H3)	0.178	2.108	0.020	0.349	0.035	Yes
Information security -> Trust (H4)	0.489	5.041	0.262	0.649	0.000	Yes
Trust -> Minimise uncertain risk (H5)	0.787	21.009	0.702	0.854	0.000	Yes
Minimise uncertain risk -> Outsourcing success (H6)	0.532	5.414	0.331	0.719	0.000	Yes
Trust -> Outsourcing success (H7)	0.288	2.644	0.617	0.804	0.008	Yes

5.5.2.2 Coefficient of determination (R^2)

This denotes the variation percentage within the dependent variables explained by the independent variables in the structural model (Keil et al., 2000). As per to Chin (1999), the extent of latent construct's explained variance is represented by R^2. The value varies as per the number of independent variables that are measured. Additionally, *Chin (1998a)* recommended that a model reflecting R^2 values of 0.67, 0.33, and 0.19 can be considered as significant, moderate and weak, correspondingly.

Table 5.10 specifies that "Trust" explained highest variance (R^2= 0.673, 67%), next was "Minimise uncertain risk" (R^2=0.619 or 62%) and "Outsourcing success" (R^2= 0.607 or 61%). According to the principle of Chin (1998a), the model is viewed to be considerably fit. The test results recommend, the structural model explained the highest variation of percentage "Trust" in turn resulted to variation explained by "Minimise uncertain risk" and a significant variation was again explained by construct "Outsourcing success".

Table 5.10: Coefficient of determination (R^2) values

Construct(s)	R^2: Original Sample (O)	R^2: Sample Mean (M)	Standard Error (STERR)	t-statistics (|O/STERR|)	P Values
Trust	0.673	0.689	0.052	13.008	0.000
Minimise uncertain risk	0.619	0.621	0.058	10.619	0.000
Outsourcing success	0.607	0.622	0.049	12.299	0.000

5.5.2.3 Effect size (f^2)

Inner-model path coefficient β reduces with the increasing quantity of indirect relationships and subsequently considerable direct relationships tend to be unimportant. In this research, through Cohen's (1988) function f^2 calculates the inner-model changes in the relations according to the effect size. The size function effect f^2 is alike to the old-fashioned partial F-test as per Gotz et al. (2010) which assisits to calculate the R^2 increases in relation to the ratio of variance of the dependent variable remaining to be explained. Unlike the old-fashioned F-test, f^2 is

not related to the size of the sample but to the size of the population, therefore degree of freedom was not required to calculate the value of f^2. Cohen (1988, p. 413) determined amplitude of effects in various categories representing: strong (0.35), moderate (0.15) and weak (0.02).

In Table 5.11, the values of f^2 showed that maximum of the relations obtained moderate f^2 >0.02, while "Trust with Minimise uncertain risk" (which was found substantial with a value of 1.624) and "Legal contract with Trust" (was found weak with a value of 0.009). The moderate influence of f^2 recommends that involving added paths or independent variables doesn't have any noticeable influence on dependent variable's variance shared. It is worth to notice f^2 values for the significant β value of "Information security", "Information/knowledge sharing" and "Relationship specific investment" on "Trust" suggests that the relationship was moderately acceptable. However, the negative or zero effect of "Legal contract" with "Trust" path was determined by their insignificant influence on the dependent variable (Trust).

Table 5.11: Effect size (f^2) values

Construct(s)	Legal contract	Relationship specific investment	Information/ knowledge sharing	Information security	Trust	Minimise uncertain risk	Outsourcing success
Legal contract					0.009		
Relationship specific investment					0.710		
Information/knowledge sharing					0.510	-	-
Information security					0.360		
Trust						1.624	0.801
Minimise uncertain risk							0.375
Outsourcing success							

5.5.2.4 Relevance of Prediction (q^2)

Another structural model calculation is q^2 statistics, which is the capability of prediction in the model by replicating the observed values and its approximating parameters. Stone-Geisser (Stone, 1974; Geisser, 1975) is used to find q^2 and this

principle states that the model is able to predict the measuring items of the dependent variables. This is popularly called reusing sample method which enables measuring cross-validation (Chin, 1998; Wold, 1982). Fornell and Cha (1994, p. 73) noted that only if q^2 is more than zero, the model is examined to incorporate predictive relevance.

In PLS, cv-communality and cv-redundancy are the two kinds of predictive relevance/validities that are estimated for the measurement model. On one hand, cv-communality is calculated by the measurement model's ability to evaluate the path model; on the other hand Tenenhaus et al. (2005) viewed that measuring item blocks are computed from its own latent variable's items. Moreover prediction of the measuring endogenous or dependent variable is done using only the same block of items.

Chin (1998) observed that cv-communality is achieved when prediction of omitted data points in the measuring variable's block is done by the original latent variable construct. On the contrary, cv-redundancy measures the ability of path model to be able to predict the dependent variable's measuring items indirectly built on the prediction of their own latent variable through a related structural relationship, via carrying out a cross-validation (Tenenhaus et al., 2005, p. 181-182). Contrary to cv-communality, the cv-redundancy method measures the quality of the structural model by considering only the prevailing measurement model. The cv-redundancy approach uses the path model estimates of the structural model which scores the antecedent construct and the measurement model which targets endogenous construct. **It is recommended in the literature for using the cv-redundancy as a measure of q^2** (Stone, 1974; Geisser, 1975) as it contains the basic elements of the path and the structural model to predict removed data points.

In this research, q^2 were measured through the blindfolding process, as recommended by Gotz et al. (2010).The estimation and omission of the data points in blindfolding process as noted by Chin (1998) relies on the omission distance denoted by (G). Wold (1982) recommends that the omission distance needs to be an integer between the quantity of cases and indicators. Furthermore Chin (1998a)

suggested that omission distance is possible in between 5 to 10. In this research, taking into account *Chin's (1998) suggestions, blindfolding has been conducted applying omission distance G =7.*

Indices for q^2 are illustrated in table 5.13. For SEM models, q^2 values bigger than zero for a definite reflective endogenous variable indicate the path model's predictive relevance for a specific variable. Zero or below values indicates lacking predictive relevance. For predictive relevance, values like 0.02, 0.15 and 0.35 indicate that an exogenous construct has a small, medium or large predictive relevance for a selected endogenous construct. The table clearly shows that all q^2 values are considerably above zero. Thus, it supports the model's predictive relevance for all three endogenous constructs (trust, minimise uncertainty risk and outsourcing success).

The indices for the cv-communality and cv-redundancy acquired by the blindfolding method are illustrated in table 5.12. Here it is important to recall that calculations for the path model to predict endogenous or dependent variable is done only through cv-redundancy, like $R^{2.}$ results demonstrated that all blocks depicted an adequate c-v redundancy and cv-communality index.

Table 5.12: Communality and redundancy values

Construct(s)	**cv – redundancy**	**cv- communality**
Legal contract		0.349
Relationship-specific investment		0.304
Information/knowledge sharing		0.453
Information security		0.326
Trust	0.404	0.373
Minimise uncertain risk	0.394	0.299
Outsourcing success	0.350	0.373

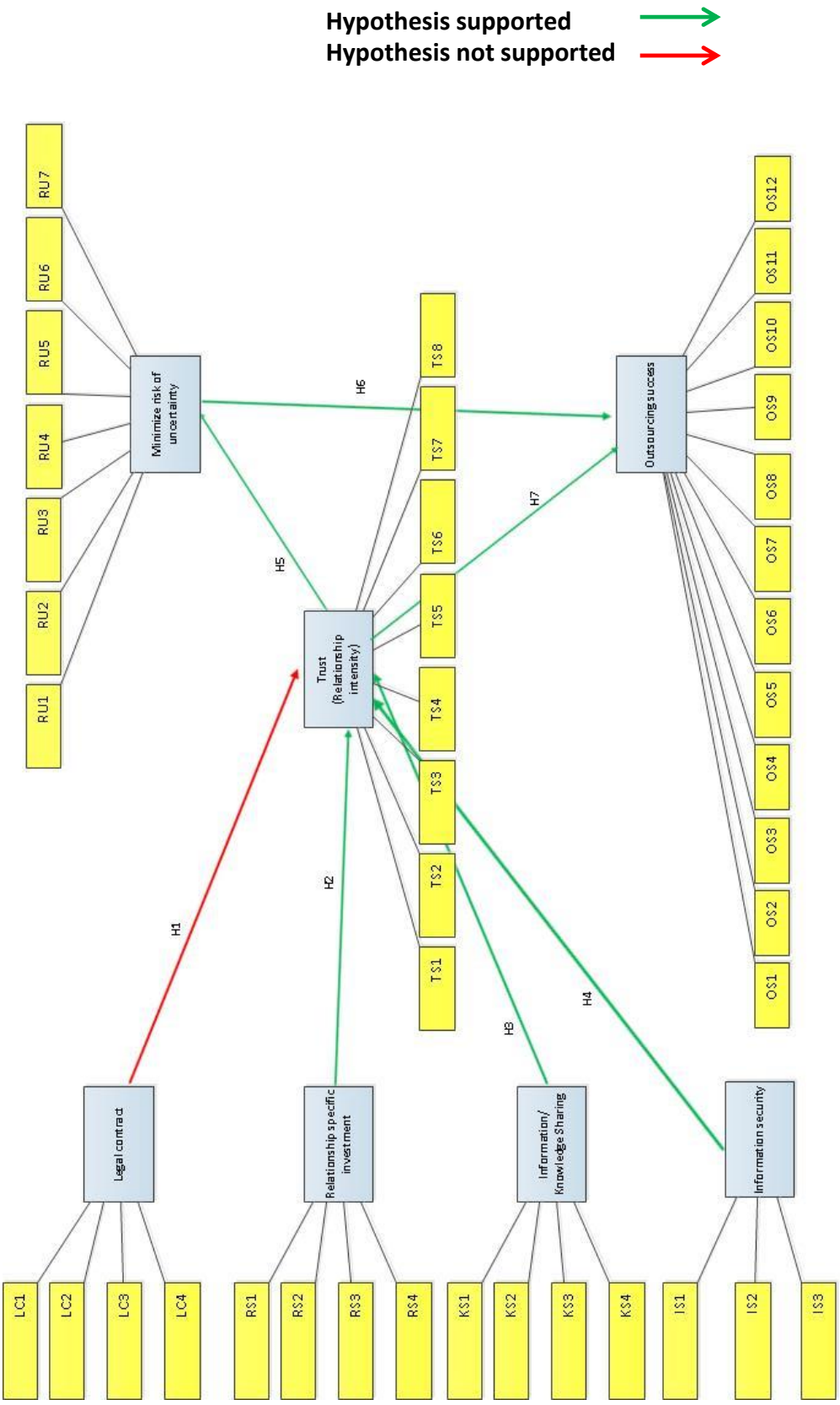
5.5.2.5 Result summary of structural relations and validated conceptual framework diagram

Table 5.13 summarises the overall path analysis results obtained.

Table 5.13: Summary of structural relations and path significance of conceptual framework

Construct(s)	Hypothesis	Path Coefficient (β)	t-stat	P values	Hypothesis test result
Legal contract -> Trust (H1)	H1: A well framed, scoped and mutually agreeable contract has a positive and significant effect on the overall trust in IT offshoring relationship.	0.065	0.925	0.355	Not supported
Relationship - specific investment -> Trust (H2)	H2: Relationship-specific investments have a positive and significant effect on the overall trust in IT offshoring relationship.	0.218	2.282	0.023	Supported
Information/knowledge sharing -> Trust (H3)	H3: Information and Knowledge sharing has a positive and significant effect on the overall trust in IT offshoring relationship.	0.178	2.108	0.035	Supported
Information security -> Trust (H4)	H4: Information security has a positive and significant effect on the overall trust in IT offshoring relationship.	0.489	5.041	0.000	Supported
Trust -> Minimise uncertain risk (H5)	H5: Trust has a positive and significant effect on minimising uncertainties in IT offshoring relationship.	0.787	21.009	0.000	Supported
Minimise uncertain risk -> Outsourcing success (H6)	H6: Minimising uncertainty risk has a positive and significant effect on IT offshoring success.	0.532	5.414	0.000	Supported
Trust -> Outsourcing success (H7)	H7: Trust has a positive and significant effect on IT offshoring success.	0.288	2.644	0.008	Supported

Figure 5.4: Conceptual framework as validated using PLS method of SEM



Consequences/Performance

Antecedents/Interaction Process

5.6 Summary

The current chapter began with initial results of the pilot and its outcome was adequate and revealed that the instrument was reliable to achieve and carry out the main study with fullscale data. Gathering of data took place through a self-administered web based survey in the large and mid-size corporates in the UK and some parts of Western Europe. As a preparatory step for the suitability of the data collected for the analysis, the responses obtained from the main survey conducted, were examined using SPSS for data consistency, normality, data completeness, multicollinearity and bias purposes. It is observed that the total proportion of missing data was only 5% at both item- and construct-levels. Missing data was handled by the Hot Deck, Cold Deck and mean value replacement method.

SPSS version 21.0 was used to perform the skewness test and case wise diagnostics outlier test to detect outliers in this study. The tests detected few outliers, which did not significantly deviate from the remaining set of observations and showed no cause for concern with outliers. However, significance of kurtosis-skewness test at construct-level revealed that assumption of multivariate normality was violated. In this study, all the variables do not fall within the normal range of skewness and kurtosis. Therefore, a non-parametric statistical method (PLS-SEM) was chosen for the data analysis. Consequently, rather than using CB-SEM approach which best performs on multivariate normal data, PLS was selected as the primary approach of analysis as the data in this study was not found normally distributed. Also, the prospect of existence of multicollinearity was not found through VIF and tolerance effect tests and therefore the need for deleting any independent variable was not required.

Finally, data was checked for common method and non-response bias using Harman's Single Factor and Paired Sample t-test repectively, using SPSS Version 21.0 revealing insignificant bias or concern for any type of bias existing in the responses received.

The conceptual framework was analysed, assessed and tested using SEM in two steps. The first step, examined the measurement model to detect items and constructs reliability, convergent and discriminant validity. Results showed that constructs in the model fitted properly with the essential measuring items and therefore, no item was ignored. The second step is used to investigate and validate hypothetical relationships in the model. Out of total seven paths representing seven hypotheses, six were supported and one unsupported.

The interpretation of the data analysis relating to the conceptual framework, hypotheses and literature view of the results are discussed and synthesised in the next chapter.

Chapter 6: Discussion and Synthesis

6.1 Introduction

Chapter 5 illustrated a detailed analysis of data collected in the main study. The validation is established through the interaction process and relationship intensity empirically. The structural model was evaluated using path model (Smart PLS). This chapter intends to examine the potential rationale for the significance and insignificance of the relationships proposed in the conceptual framework in alignment with the results. A review of the research objectives and model development is presented (section 6.2) in the current chapter. After that, it discusses the findings of this study in Section 6.3 briefly. The next section presents the interpretations of the hypothesis test results aiming to answer the question on critical factors having significant and positive influence on trust building in IT offshoring relationships. Furthermore, it includes interpretation of the antecedents of trust and discussion on the findings on the consequences of trust. The triangular structural relations between trust, uncertainty risk and success is interpreted and discussed in conjunction with the literature evidence.

6.2 Objectives and questions of the study

The objectives of this study are:

- To identify the relevant critical factors and explore its causes and effects (antecedents and consequences) on the relationship intensity significance level.
- To develop an integrated conceptual framework combining the hypothetical relationship among these identified critical factors.
- To empirically validate the conceptual framework.

Based on the first objective and part of the second objective of this study, following questions are answered through systematic literature review and backed with the empirical study. The other two objectives are accomplished through development and validation of the conceptual framework. The development of the conceptual framework is outlined in chapter 3 and validation is done in chapter 5. This chapter will focus on interpretation and synthesis of the validated results.

1. **What are the critical factors for the overall success of IT offshoring relationship?**

From the systematic literature review and empirical examination, it emerged that there are six relevant critical factors influencing the success of IT offshoring relationships. Based on this, the conceptual framework has been developed including seven hypothesised paths (hypotheses) and validated through survey /data collection and quantitative analysis. The response to this question according to the empirical test results assist to identify what the clients and suppliers in offshoring may consider managing effectively for the engagement health.

***2*. What are the antecedents or determinants (cultivating factors) of trust in IT offshoring relationship and do they influence trust?**

Based on the empirical examination, three critical antecedents/determinants (relationship-specific investment, information and knowledge sharing and information security) of trust were established. The response to this question will assist the IT offshoring companies to comprehend trust within offshoring structural relations and ways to achieve this through the factors associated with it.

***3.* What are the consequences of trust in IT offshoring relationship and how they are influenced by trust?**

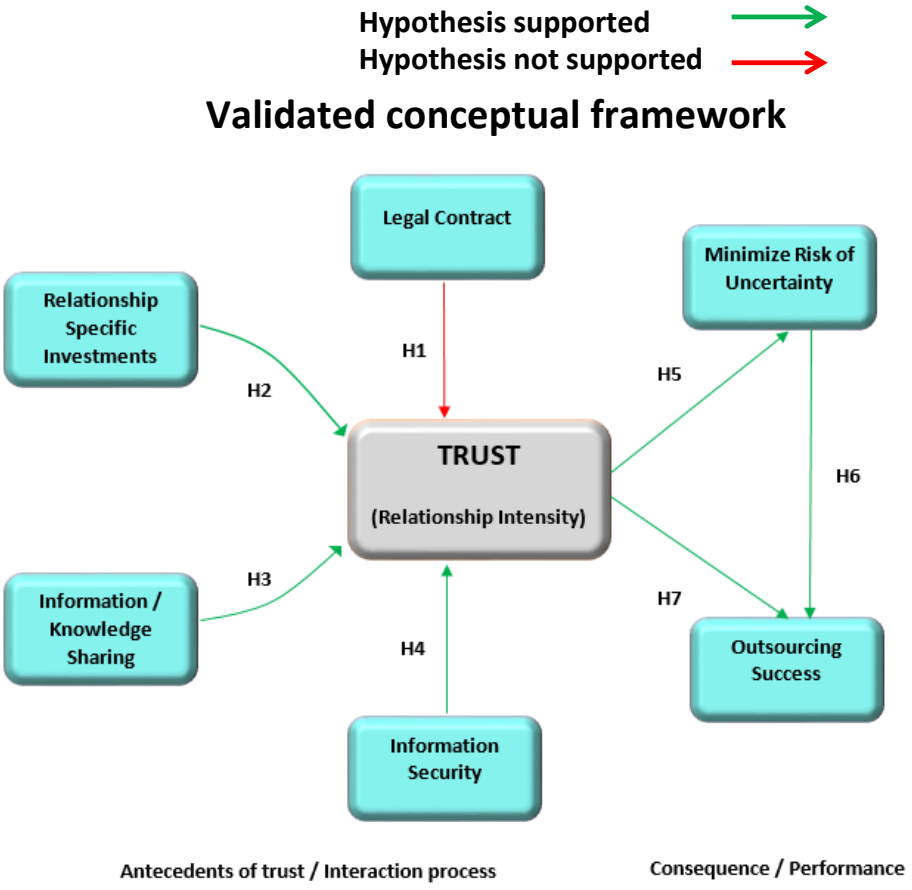
Trust development positively influences risk minimisation, particularly uncertainty risk and it impacts positively on the overall outsourcing success. Response to this question will assist IT offshoring companies to comprehend the consequences of trust based relationships in an IT offshoring engagement/platform on the overall performance.

6.3 Validated conceptual framework and hypotheses

Based on data analysis, a validated conceptual framework for trust based methods for managing IT offshoring relationships towards success achievement is demonstrated.

The validated conceptual frameworks presented in figure 5.4 at both construct and item level. However, the following figure 6.1, depicts the validated framework at construct level.

Figure 6.1: Validated conceptual framework– construct level



Both literature and results reflect several critical factors as antecedents that determine IT offshoring clients' trust towards its suppliers. Therefore, in the conceptual framework path relations with the following hypothesis were tested. Validation results shown in brackets with boldfaced details.

H1: A well framed, scoped and mutually agreeable contract has a positive and significant effect within the overall trust in IT offshoring relationship (**Not supported**)

H2*:* Relationship-specific investments have a positive and significant effect on the overall trust in IT offshoring relationship (**Supported**)

H3: Information and knowledge sharing have a positive and significant effect on the overall trust in IT offshoring relationship (**Supported**)

H4: Information security has a positive and significant effect on the overall trust in IT offshoring relationship (**Supported**)

H5: Trust has a positive and significant effect on minimizing risk of uncertainties in IT offshoring relationship (Direct impact of trust) (**Supported**)

H6: Minimising uncertainty risk has a positive and significant effect on IT offshoring success (Indirect impact of trust) (**Supported**)

H7: Trust has a positive and significant effect on IT offshoring success (**Supported**)

The outcome of the data analysis of the structural models are summarised with the path significance and t-values in table 6.1. SmartPLS bootstrap resampling procedure was used to test significance of the paths in the framework. As demonstrated in chapter 5, six are found significant at $p \leq .05$, amongst seven hypothesised paths.

These results suggest that the strong antecedents of “trust” are “information and knowledge sharing”, “information security” and “relationship-based investments”. The vital consequences of “trust” are “minimization of uncertainty risk” and “outsourcing success”. The hypothesis (H1) on “legal contract” to trust path was however found insignificant. A detailed discussion of this is in the next section.

Table 6.1: Summary of hypothesis tests

Structural path(s)	Hypothesis	Result
Legal contract -> Trust	H1: A well framed, scoped and mutually agreeable contract has a positive and significant effect on the overall trust in IT offshoring relationship.	Not supported
Relationship specific investment -> Trust	H2: Relationship-specific investments have a positive and significant effect on the overall trust in IT offshoring relationship.	Supported
Information and knowledge sharing -> Trust	H3: Information and knowledge sharing have a positive and significant effect on the overall trust in IT offshoring relationship.	Supported
Information security -> Trust	H4: Information security has a positive and significant effect on the overall trust in IT offshoring relationship.	Supported
Trust -> Minimise uncertain risk	H5: Trust has a positive and significant effect on minimising uncertainties in IT offshoring relationship.	Supported
Minimise uncertain risk -> Outsourcing success	H6: Minimising uncertainty risk has a positive and significant effect on IT offshoring success.	Supported
Trust -> Outsourcing success	H7: Trust has a positive and significant effect on IT offshoring success.	Supported

6.4 Interpretation of the hypotheses test results

The validated conceptual framework (figure 6.1) is further elaborated based on the outcomes of the analysis, regarding the antecedents and consequences of trust.

6.4.1 Antecedents of trust

Empirical study towards finding the relevant the critical factors for the development of trust was carried out with the intention of providing an answer to the second research question of this study.

According to Zaheer and Venkatraman (1995), trust echoes a party's perspective on its needs achieved through directives in the future which are executed by another partner. McKnight et al. (1998) observed this as an important requirement for relational governance. Different distinctions between types of trust germinating from varied literature(Williamson, 1993; Zucker, 1986; Gefen et al., 2006), the

investigation focuses on several variants of trust, as one single factor. All the variants of trust configured in one construct as found suitable in IT offshoring context . Hence, these critical factors which affect the cultivation of trust particular to IT offshoring engagements are examined in this study.

The procedure of trust development is essential to handling an outsourcing engagement. It contributes to how intermediaries modify, execute and negotiate an offshoring agreement; this intensely influences the amount which relevant parties evaluate this being effective and reasonable. This procedure impacts on cultivating appropriate mechanisms for inspiration to retain, or conclude the engagement. It is claimed that effective outsourcing relationships are retained not as they attain maturity, but as they retain a steadiness within informal and formal relationships (Ring and Van de Ven, 1994).

To assist improving success rate, accomplishing trust in IT offshoring relationships as a practice, this conceptual framework has been developed for its application in the IT offshoring domain. The above framework is in synthesis with the view of Aggestam and Söderström (2005) and according to them a framework is “a suggested point of reference” (p.101).

6.4.1.1 Significance of legal contract as a critical factor towards trust development in IT offshoring relationship success

For achieving the objective of observing how legal contract influenced client’s trust development, one path relation with the following hypothesis was developed and tested.

Hypothesis 1 (H1): A well framed, scoped and mutually agreeable contract has a positive and significant effect within the overall trust in IT offshoring relationship. **(Not supported)**

The PLS outcomes on Table 5.10 dipict empirical proof of hypothesis H1 not supported.Moreover, the path relationship significance with trust (β = 0.065) was found insignificant with p>.05 (0.355) and t-statistic 0.925. Reliability of the item was examined by the factor loading values of the various construct items; were

above the 0.7 threshold and were significant. Reliability of the construct was evaluated by Cronbach α (alpha) coefficients. CFA test was undertaken to evaluate convergent validity, through using the measurement model whereby every item is limited to load its predefined construct. Here, construct itself remains open to correlate.

Thus, the results presented in the previous chapter do not support the hypothesis that a well-framed contract has a positive and significant effect on overall trust in IT offshoring relationship. The above finding, is contrary to the literature evidence that suggest, contract is critical to engagement success (Klepper, 1995; Fitzgerald and Willcocks, 1994; Grover et al., 1996; Lee, 1996; Saunders et al., 1997; Kern and Willcocks, 2000).These findings indicate that IT offshoring trust is often supported by tight legal contracts. The current research brings a completely new and thought-provoking dimension towards IT offshoring relationship characteristics.

The above findings are <u>not</u> aligned with the theory (AT) and literature.

Currie and Willcocks (1998) and Lee (1996) view that tight contract is essential to enable attainment of preferred objectives. On the other hand, a loose contract escalates the risk of failure. The relationships based on unstructured and loose contracts increases the chance of failures and according to Hancox and Hackney (2000), 80% of the clients desired that they should have gone for increased tightly defined contracts. The IT offshoring contract suggested by (Hackney and Hancox, 2000) is a significant mechanism for structuring commercials, scoping of activities, accountability of each party combined with deliverables associated with them and all these acting as guidelines to manage the contract.

It is also viewed by (Hackney and Hancox, 2000) that the connection between contract and relationship management can be classified into two categories:

(1) a well structured contract is the foundation for developing relations and

(2) a healthy relationship is essential as a contract does not operate flexibily in the execution phase.

A contract was found by Fitzgerald and Willcocks (1994) as a critical foundation for all subsequent relationships as an instance of the first category. According to Saunders et al. (1997) it was accentuated that the contract is an important guideline to any offshoring relationship (Dibbern et al., 2004). Goo et al. (2009) suggest that the contract provides the specificed directions towards structure and governance, collaboration amongst the parties which is estabilished on the relational governance theory. It was found that only few particular features of SLA address risk management. Whereas the studies in the second category primarily accentuate the significance of relationship in the offshoring success.

Few studies have revealed, contracting capability helps manage relational exchanges effectively thereby developing various dimensions of organisational performance systems (Mayer and Argyres, 2004). The lack of research evidence on how firms strategically use contracts to manage their inter-firm exchange successfully is evident. There has been an absence of on the ways to nurture and control the required qualities of relationships between partners to improve relationship intensity. Lacity et al. (2010) state that the presence of the well structured contract in the event of IT offshoring relationship management remains unaffected. Indications from prior studies connecting quality of relationship and trust and delivering skilled man power base that makes organisations to nurture preferred relational qualities for bridging the existing gap in theory. This study focused on a question - if contracts are able to nurture relationships based on trust which ushers in the success of IT offshoring engagements; then why so many engagements are failing?

As deterrence-based trust (Appendix 1) is primarily based on the calculation of penalties and rewards, Shapiro et al. (1992) stated this variant of trust is based on the consistency in behaviour of the exchange partners. This form of trust views that the transacting partners will execute what they had agreed initially to get properly rewarded. Another view point is that this kind of trust is also based on the fear factor of the consequences if either party fail to achieve the contractual agreements.

On the other hand, from the theory perspective, AT also supports the importance of legal contract to develop a good control on the supplier. Incidentally, it also builds client-supplier rapport through reward-penalty instruments. AT suggests mechanisms to manage the concerns of incompatible goals of the suppliers and clients. Therefore it propagates that the effective co-ordination and better control is achieved through a well-structured legal contract which is considered to be a necessary towards relationship building.

This study establishes that it is necessary to shift from a standard agency relationship to a partnership based approach. Although it is difficult, aiming and working towards a balanced/committed partnership relationship between both parties is quite vital. This is particularly critical when both parties expect the outsourcing engagement is to succeed, survive and continue in the advent of changing business models posed with too many challenges.

This study propagates a healthy engagement, with relational governance mechanism, making neither party feel the need for referring the legal contract periodically. Hence this study is based on future research needs suggested by Poppo and Zenger (2002) towards addressing the characteristics and influence of relational governance with that of tightly written contract.

Furthermore, as stated by Hart (1988), the uncertainty risk and bounded rationality (Simon, 1991) abstains exchange partners from drawing up exchange attributes, play a vital role precisely as most contracts being detailed and tight contracts dealing with all potential eventualities. Poppo and Zenger (2002) argue that relational qualities of exchange perform a role exactly as substantial contracts tend to be incomplete, making relational contracts and formal written complement each other.

Whereas, relational governance is based on the role of execution of expectations, responsibilities and possibilities through social and exchange trust. Macneil (1980), asserted that contracting is by no means anonymous, regarded by impersonal communication. According to him, that most essential model of discrete exchange

also incorporates certain relational rudiments. Macneil's argument upholds that the finding is - relational intensity largely depends on a social exchange.

Looking at the indicators for legal contract (see Appendix 4), a well-defined legal contract is captured in this research by its scope, clear milestones and measurable SLAs. The argument using AT and TCE clearly state that these actions help minimise exchange hazards (Williamson, 1985). On one hand the Agency theory recommends that the contract is the foundation of managing an offshoring relationship. On the other hand, TCE recommends that deviousness in the offshoring relationship should be mitigated. Jensen and Meckling (1976) underlined that the primary finding from agency theory is that if used effectively for monitoring incentives, can limit the ethical danger relating to the service supplier. The above schemes, left on their own cannot provide the framework which can manage risks within an offshoring engagement.

The Agency theory endeavour to discover the most suitable contract between both the parties in order to curtail transaction and agency costs. Additionally, it works to limit the unscrupulous behaviour of the service supplier (Jensen and Meckling, 1976). Moreover, Wang (2002) and Wang et al. (2008) feel that unscrupulous behaviour produces an increased uncertainty to a contractual relationship. It is difficult to predict contingencies occuring during a transactions uncertainity. Depending purely on contractual relationships can lead to problems as most contracts are incomplete.

A well-structured agreement assists in developing an even relationship between the parties. And this is why the process of creating the agreement is as crucial as the final product. A well-functioning engagement is usually the cause that none of the party later refers the written contract frequently to manage the relationship.

Lacity et al. (2010) claim, contract is the sole instrument, when a firm decides to outsource, that guarantee fulfilment of expectations. This study takes John R. Commons' (Kaufman, 2007) insight that no contract can ever be complete, as an important point of consideration for the whole discussion.

However, while some previous studies do mention about incomplete contract theory, they do not stress on the practice not to rely on contracts only. Beulen and Ribbers (2002) in their work on IT offshoring contracts also claim that the possibility of covering all aspects in the contract is limited but do not suggest about what else could be done to mitigate the incompleteness.

This study therefore asserts the viewpoint that dependence solely on the legal agreement is hence possibly unrealistic.

However, trust or relationship intensity is captured with measures like keeping promises or commitment, sincerety, honesty, loyalty, reliability, business ethics etc, is exemplified mainly by activities that are beyond well-specified contracts. Hence, explaining the insignificance of the relationship between legal contract and trust. This result could interpret as trust in an IT offshoring relationship going well beyond well-defined contracts. It can be concluded that, well-defined legally binding contracts are enforceable but building trust requires much more than these contracts. In other words, well-specified contracts seem to have a relatively low level of impact on building trust in IT offshoring.

6.4.1.2 Significance of relationship-specific investment as a critical factor towards trust development in IT offshoring relationship success

For achieving the objective of observing how relationship-specific investment influenced client's trust development, one path relation with the following hypothesis proposed and tested.

Hypothesis 2 (H2): Relationship-specific investments have a positive and significant effect on the overall trust in IT offshoring relationship **(Supported)**.

Table 5.10 presents empirical evidence that hypothesis H2 is well supported and the path relationship significance with trust ($\beta = 0.218$) was found significant with $p \leq .05$ and t-statistic 2.282.

The above findings are aligned with the theory (TCE) and literature.

Relationship-specific investment is related to the "Asset specificity" aspect of TCE and considered as the most prominent transaction characteristic (Williamson,

1985). Relationship-specific investments are those assets in a relationship which are of much lower value if utilized in another engagement (Heide and John, 1988).Certain previous studies perceived an insignificant relationship between possibility of offshoring and asset specificity (Joskow, 1990; Roodhooft and Warlop, 1999; Hennart 1988; Barthélemy and Quélin, 2006).

However, an investment specific to a relationship is concrete evidence that a party is committed to the relationship. It also cares for such relationship (Anderson and Weitz, 1992). Resources directed particularly towards the other party are the common demonstration of commitment to the relationship (Rinehart, 2004). According to Williamson (1985), strong partnership usually matures protecting asset specificity. This is due to the fact that individual supplier investments alters the firm's structure of incentive and individual supplier assets may decrease substantially lest offshoring relationship continues (Anderson and Weitz, 1992). The suppliers believing in investing in a realtionship unlikely to participate in unscrupulous behaviours causing harm to the clients endangering the relationship to come to a halt resulting into a loss for both parties.

As such the higher the amount one partner invests chances of that partner getting locked into the relationship becomes higher. As per Lindskold (1978), the relationship-specific investment projects a signal reflecting the intensity of the firm's willingness to continue in the same relationship longer. Therefore, willingness and orientation in favour of a relationship-specific investment by the suppliers reflects confirmation that the suppliers are trustworthy.

This research treats investment in IT (skills and infrastructure) as a single variable or considers a single technology and its potential effects on client's trust in the supplier. While technology can support the coordination of many arms-length market transactions (Malone et al., 1987), asset specificity in technology or organisational processes can also create lock-in. Hence, clients develop long-term partnerships with trustworthy suppliers and they could be motivated by relationship-specific investments (Srinivasan et al., 1994). Malone et al. (1987)

debated that information technology investments will push firms to increase the number of suppliers they work with by lowering transaction and coordination costs.

Bakos (1997) makes a similar argument based on reducing search costs and thus making it cost-effective to contract with smaller numbers of suppliers. Similarly, Bakos and Brynjolfsson (1993a, 1993b) show that when non-contractible relationship-specific investments are made, such as certain investments in innovation or quality, it can be optimal to restrict the number of suppliers, in order to increase their incentives to make such investments. Supplier-specific IT can support such long-term trust-based relationships, by creating high throughput, dedicated and transparent information exchanges between specific firms, creating lock-in and over dependence (Srinivasan et al., 1994, Iacovou et al., 1995). Prior evidence demonstrates the importance of distinguishing different types of IT assets created in terms of their ability to support distinct strategic goals related to firm performance (Aral and Weill, 2007).

Ganesan (1994) noted, the buyers tend to trust the suppliers if they observe them making idiosyncratic investments on their behalf. Accordingly, Cheng (2001) revealed, such investment improves the intensity of trust between them. Tian et al. (2008) and Suh and Kwon (2006) also conveyed a positive and strong connection of trust development with relationship-specific investment amongst the partners in supply chain.

This above result is aligned with the literature and TCE (Kwon and Suh, 2004; Gorla and Somers, 2014; Suh and Kwon, 2006; Cheng, 2001; Khan and Niazi, 2012).

6.4.1.3 Significance of information and knowledge sharing as a critical factor towards trust development in IT offshoring relationship success

For achieving the objective of observing how information and knowledge sharing practices influenced client's trust development, one path relation with the following hypothesis proposed and tested.

Hypothesis 3 (H3): Information and knowledge sharing have a positive and significant effect on the overall trust in IT offshoring relationship **(Supported)**.

Table 5.10 presents empirical evidence that hypothesis H3 is well supported, and the path relationship significance with trust (β = 0.178) was found significant with p≤.05 and t-statistic 2.108.

The above findings are alligned with the theory (RBV) and literature.

The Resource-Based View (RBV) of a firm emphasises those factors that support firms to gain a competitive benefit. This factor, information and knowledge sharing, has a direct relationship with the RBV model. According to RBV theory, a knowledge-based asset that is intangible in nature provides a source of competitive advantage because they are unique and difficult to emulate and culturally embedded (Doney and Cannon, 1997; Kwon and Suh, 2005). When the nature of the offshoring relationship shifts, from a contractual to a partnership-based approach and the significance of knowledge-sharing through the offshoring partnership is emphasised, it reflects that the partnership quality and organisational capability in IT offshoring are of fundamental importance (Urbach and Würz 2011; Lee and Kim, 1999; Gallivan and Oh 1999). More specifically, the effect of information and knowledge sharing on trust development was studied.

Information-sharing is cited as being the most important antecedent element taking part in building or maintaining trust between enterprises (Kwon and Suh 2005; Kumar et al., 1995). However, when it comes to collaborative work, the relationship between trust and information-sharing is not a well-addressed issue. Forzi and Peters (2005) recommended a global methodology for integrating human, technical, organisational factors to structure a knowledge management system. In this case, the human factor is relevant to the know-how platform of knowledge management practices.

Lugger and Kraus (2001) moreover contend that knowledge management does not appear to assign adequate importance to the issue of communication, particularly, to internal communication and information exchange. Besides human and organisational transfer barriers identified, communication media also contribute towards generating major issues and barriers for knowledge transfer. Volpentesta and Ammirato (2007) focus on knowledge-sharing and allocation within a bounded

geographical area, called technological districts, whereby different economic entities (public administrations, enterprises and research centres,) are involved in highly rigorous research activities and dispersed scientific-technological processes. They aim to achieve innovation by introducing a knowledge breeding environment framework for technological districts. However, there is a lack of addressing trust matters in their study.

Palacio et al. (2012) recommend that the suppliers are able to increase the trust of their clients through effective and transparent communication. Sharing information and knowledge serves as a signal of transparency and honesty of the suppliers, improves suppliers' openness to care and decreases risk in the relationship. According to Selnes (1998), the supplier still needs to evaluate the benefits against the probable risks while sharing knowledge and information with their clients as there maybe supplier's business critical information and knowledge that may have their own IP. The above result of analysis is aligned with the literature and the same is also suggested by Bowersox et al.'s (2000), sharing of information is the important factor facilitating trust-building in the supplier-client relationships.

Therefore the result of this study is also equally evidenced in the literature (Foss, 1996; O'Dell and Grayson, 1998; Willett, 2002; Lee and Kim, 1999; Teece, 1998; Barney, 2007; Tian et al., 2008).

6.4.1.4 Significance of information security as a critical factor towards trust development in IT offshoring relationship success

In order to accomplish the aim of measuring how information security practices effects client's trust development, one path relation with the following hypothesis proposed and tested.

Hypothesis 4 (H4): Information security has a positive and significant effect on overall trust in IT offshoring relationship **(Supported)**.

Table 5.10 provide empirical evidence that hypothesis H4 is well supported, and the path relationship/co-efficient with trust ($\beta = 0.489$) was found significant with $p \leq .05$ and t-statistic 5.041.

The above findings are aligned with the theory (DC) and literature.

From the theoretical perspective, Dynamic Capabilities (DC) permits easy identification of best practice that may be acquired or transferred by resource base capabilities over a time frame. Information security is a growing issue in all organisations as they regularly need to improvise their IT systems to safeguard against new security threats, and thus the DC view fits very well with this construct and was tested positive/significant in this study. DC is an extension of RBV and its capacity to reconfigure firm's routines and resources in the path considered and conceived by its main decision maker (Helfat and Peteraf, 2009).

Information security encompassing safeguarding of clients' sensitive data happens to be a serious concern for most clients engaged in IT offshoring. A vital parameter in selecting an offshoring partner is the level of information security assurance level as companies identify a relatively increased security risk with a supplier based at an offshore location. At times data pilferage happens due to not understanding its value and importance as well as inadvertently by the supplier. An empirical study conducted by Forrester (2009) with the US and European clients, revealed the significance and level of importance of various categories of information security is list in the order of priority:

1. Data security
2. Application security
3. Business continuity and disaster recovery
4. Process security.

Anticipating a growing concern of clients in this area of information security which may impact the offshore supplier status in procuring and executing business, NASSCOM initiate a journey to motivate the suppliers in India to comply with the best-practices in this area (NASSCOM, 2013) to help create India as a trustworthy global hub for IT offshoring. They released various best practices guidelines in relation to information secuirty by encompassing :

- Information secuirty risk management practices

- Infrastructure and data centre security practices
- Ethical practices with electronic communication and internet based governance
- Benchmarks for global branding in IT services industry (highlighting information secuirty being a key factor in assessment).

Maturity of the supplier plays a vital role in earning trust from the client that enables success for both parties in outsourcing (Fink, 1994). Trust development enables suppliers become a strategic business partner from being a contracting partner (Stank et al., 2001). There are several instances cited in the literature where the supplier was acquired by the client firm based on the merits in the buyer-supplier relationship (Migliaccio and Rivetti, 2013). An important pillar for trust development is information security, which may accelerate towards developing a long-lasting relationship between the client and supplier (Luor et al., 2008).

Yalaho (2007) conducted a correlative study of India and Finland and found violations IPR, data security and trust are the major inhibitors of IT offshoring. In context of US jurisdiction and European Union entities the topic of data protection emerged as a sensitive regulatory issue of late in the context IT offshoring (Vagadia, 2012). Also for the supplier companies in countries like India and China, the subject of enterprise security has now become mainstream activity in delivery mechanism (Agarwal et al., 2005). Clients strongly believe that only a trustworthy supplier can be entrusted with data and information processing activities. In fact most IT services comprise of the above as a ncessary compnent and building block and hence building and earning trust of the client becomes a necessary corner stone to success in IT offshoring engagement (Whitman and Mattord, 2008).

Therefore, IT offshore suppliers globally are adopting a proactive approach to embrace better information security procedures. The focus areas are of varied priority levels for different supplier firms, leading to betterment of information integrity, privacy, adequacy, authorization, effectiveness and validity. Hence, to establish appropriate procedures and policies ensure the above objectives of information security, client-supplier negotiation on information secuirty procedure

and framework should get implemented as part of the engagement (Gonzalez, 2009). Similar framework is suggested by Tafti (2005) identifying security and privacy of information as one of the IT outsourcing risk categories (Tafti, 2005). Incorporation of information security within process, governance and infrastructure is vital for the success of IT offshoring and for achieving competitive advantage (Saitta and Fjermestad, 2005). Successful suppliers demonstrated better mitigation of the escalated information secuirty risks by providing quality security services (Aris et al., 2008).

Hence for the suppliers in the business of provisioning IT services, ensuring security of the information to protect client's interest is of paramount importance to build trust and succeed in the engagement (Parasuraman et al., 1985).

Therefore, the significance of information security being a determinant of a trusted supplier is well supported by the literature.

6.4.1.5 Significance of trust as the central theme in IT offshoring relationship success

Trust has gained a lot of attention in disciplines such as social sciences, health care, economics and business. Significant role of trust and its cultivation leading to IT offshoring engagement success is the central theme of this study. Trust is considered as an essential factor in IT offshoring, especially in a long-term offshoring engagement and it's not been studied extensively (Sabherwal, 1999; McFrlan and Nolan, 1995). However, multiple researchers have tried to analyse trust in the offshoring relationship, through correlation analysis amongst other related variables (e.g. Klepper, 1994) or correlation analysis between contract and offshoring success (e.g. Lee and Kim, 1999). These studies resulted in conflicting conclusions with inadequate business implications. Despite these various theories related to trust such as social exchange theory (Kern and Willcocks, 2000) and social network theory, there has been an absence of an integrated approach to enable an in-depth analysis of the trust in IT offshoring relationships.

Managing cross organisational issues beyond boundaries are difficult. However, when this shifts to different countries, difficulties are intensified. Khan and Niazi

(2012) view that an important aspect of this partnership relationship is to note that the development of trust is difficult to cultivate when contracting parties are located at distant shores, who meet less often and have different cultural and working practices. These findings generate crucial perceptions for research and practice.

To summarise, both literature and results reflect several critical factors as antecedents that determine IT offshoring clients' trust towards their suppliers. Based on the conceptual framework and results, the clients could further establish certain bench marks to assess which suppliers can be trustworthy and further get into finer details of each critical factor(s) characteristics. Also, by the same principle, the suppliers could understand as to what are the factors that will lead to earn client's trust and work more around them. Some of the key understandings that can be gathered from the antecedents' tested hypotheses are:

- Continue to focus on relationship-specific investment to reflect long-term commitment towards the engagement/client;
- To inculcate a culture of sharing knowledge and information with clients making the engagement work more transparently, effectively and productively
- Enhancing information security practices and processes to safeguard client data and IP.

However, the results suggest that the well-defined legal contract does not significantly influence trust. This is not surprising given that a trust based relatiionship is more dependable and reliable as compared to a relationship that is SLA and penalty based. A purely contract based relationship can lead to "trust dividend" for both the parties (Willcocks and Cullen, 2005). It is believed that, building trust can induce performance beyond formal and legal contracts of engagement (Lumsden and MacKay, 2006). Accordingly, Sparrow (2005) recommended to invest time and energy towards deciding on a mechanism/platform to manage the offshoring relationship for both client and supplier.

The reliability was assessed in terms of construct reliability and item reliability. The researcher analysed item reliability through the loading values of the construct items.

Through comparison of the path significance of the the critical factors as determinants of trust, the following were found significant:

- Information security
- Relationship-specific investment
- Informationand knowledge sharing

Anderson and Weitz (1989) and Niazi et al. (2013) noted that trust was found to be a crucial feature of relationship management in inter-organisational success. As per Sabherwal (1999) cultivating trusting relationship minimises risks like organisational, technological and financial risks related to the offshoring arrangement. It was also viewed by him that trust involves dependable, reliable, stable, and committed transactions between the parties in exchange relationship. The empirical findings are in line with established theories on trust such as social exchange theory and other previous studies across various disciplines as enumerated in this section and covered as part of literature review in section 2.6.5.

6.4.2 Consequences of trust

Empirical study towards finding the relevant outcomes as consequences of trust was carried out with the intention of providing an answer to the third research question.

In today`s dynamic business scenario, clients keep exploring IT offshoring opportunities for backing strategic organisational choices. IT offshoring are studied around some specific service lines such as software services (Gottfredson et al., 2005), BPO (Mani et al., 2006) and ITO (Shao and David, 2007; Rottman and Lacity, 2004). There is focus on cultivating an enhanced level of trust and commitment, applying formal and relational contracting throughout the engagement period (Datz, 2003; Kishore et al., 2004).

DiRomuald and Gurbaxani (1998) recommend that skill and job profiles needed to manage the client relationship has become a value added asset. Degradation of relationship can lead to operational disruption, higher costs and opportunity loss (Goolsby, 2002).

Usually increasing range of activities outsourced are structured through complex contracts (Saunders et al., 1997; Fitzgerald and Willcocks, 1994; Kern et al., 2002). Other researchers oulined, IT offshoring engagements comprise different relational governance structures (Koh et al., 2004; Grover et al., 1996; Lee and Kim, 1999). Gulati (2005) and Mani (2006) suggested that effective partnership possibly needs a proper alignment of both actions and interests coupled together in the engagement. Gulati and Singh (1998) asserted that a legal contract endeavours to align with incentives/penalties through SLA achievement, through which an outsourcing partnership continues. A trust-based relationship approach addresses how the exchange of information can help promote shared understanding and mutual adjustments to align actions to ensure success (Niazi et al., 2013; Poppo and Zenger, 2002; Zucker, 1986; Zaheer and Venkatraman, 1995; Ring and Van de Ven, 1994).

Also, trust in relationship commitment has been found as an an outcome of trustworthy relationship in the context of managing IT offshoring (Khan and Niazi, 2012; Choudhury and Sabherwal, 2003; Sabherwal, 1999). Both organisations in offshoring engagements are expected to cooperate towards uncertain outcomes, if any, such as intangible asset exchange as compared to definite exchange of tangible assets in a transactional exchange (Itami, 1987). Even though these two attributes are present at the begining amongst the partners who experienced previous social ties or exchange relationships (Galaskiewicz and Shatin, 1985) there are several inter-organisational ties developing amongst parties originally not familiar with the other. In these situations a suitable tool is required to build trust as parties do not have interaction history in the absence of long term work experience(McKnight et al., 1998; Niazi et al., 2013).

This study examined the consequences of trust of IT offshoring clients towards offshore IT service suppliers, using surveyed data from 136 organisations across various industry sectors in the Europe. The findings present appreciable inputs for research and practice.

As discussed in previous sections, both literature review and pilot study reflect some positive consequences of trust development towards the overall IT offshoring relationship. Also, when uncertainty risk is minimised, it impacts positively on the overall outsourcing success. Based on the literature and initial feedback during pilot study, the researcher tested hypotheses 5 and 6 on the consequences of trust (direct and indirect impact) as below.

Hypothesis 5 (H5): Trust has a positive and significant effect on minimising risk of uncertainties in IT offshoring relationship (direct impact of trust).

Hypothesis 6 (H6): Minimising uncertainty risk has a positive and significant effect on IT offshoring success (indirect impact of trust).

Table 5.10 presents empirical evidence that hypothesis H5 is strongly supported and the path relationship significance between trust and minimising uncertain risk ($\beta = 0.787$) was found significant with $p \leq .05$ and t-statistic 21.009.

Table 5.10 presents empirical evidence that hypothesis H6 is strongly supported and the path relationship significance between minimising uncertain risk and success ($\beta = 0.532$) was found significant with $p \leq .05$ and t-statistic 5.414.

The path significance values denote strength of relationship between two variables. In this case, the two variables are trust and minimise uncertain risk respectively. Whereas the R^2 value, is the measure of variance explained in the relationship or the measure of predictive power of the model structure. The value of R^2 for trust reflected in the computation was 0.673 and is significant at $p \leq .05$. The structural model was therefore evaluated based on the estimations of and path significance values and predictive power of the structural model.

Furthermore, the empirical study revealed the R^2 value of Minimise Uncertain Risk was found to be 0.619 which is significant at $p \leq .05$.

The above findings are aligned with the theory (SET) and literature.

Theory and literature evidence in support of H5 – trust and uncertainty risk.

Williamson (1985) outlines that transaction cost (TCE) rises up due to uncertainty. Hirschheim and Lacity (1993) views that the transaction cost increases particularly for asset-specific investments, due to uncertain situations. Various studied on risk are prevalent in IT offshoring (Jurison, 1995; Earl, 1996; Dhar et al., 2004; Overby, 2003) addressing a variety of many risks that are associated with IT offshoring engagements. However, in this study, the focus is particularly on risk factors (uncertainty) that are not commonly found and may not be necessarily predictable yet are sensitive to IT offshoring (Alchian and Demsetz, 1972; Barzel, 1982). As transaction cost theory states, according to Williamson, 1985, activities which are uncertain, challenging or involving specific assets having greater likelihoods of developing problems in the contract. In the context of uncertainty, risk can be categorised as below:

a. An undesirable event: Levin and Schneider (1997, p. 38), state "*event, if it occurs, represents a material threat to an entity's fortune*." Complex and interlinked activities with other organisation activities (high interdependence) considerably increases the likelihoods of an undesirable outcome or uncertainty (Aubert et al., 1998); so will a legal contract having a large scope.
b. As a probability function: In certain domains risk is viewed as *"a probability of a* serious and adverse outcome*"* (Bahli and Rivard, 2003).

The main purpose of management of risk is to decrease the level of exposure in any transaction undertaking. In order to gain all the expected benefits from a IT offshoring strategy, maximisation of profit balanced with risk minimisation, desires to reduce the exposure threats in an engagement. A constrained and rational decision-maker endeavours to bring a degree of risk exposure to an acceptable

level or below a level, for attaining the same benefits.This is known as the satisfying decision rule of bounded rationality theory of Simon (1991). Decreasing the risk exposure is usually accomplished through minimising losses linking the undesirable results or reducing the probability of manifestation any such results. As per Sabherwal (1999), in both these situations, trust plays a vital role in addressing these issues.

Das and Teng (2004) also view that trust is intricately connected with uncertainty risk within the alliance and other inter-organisational ties like outsourcing.

Theory and literature evidence in support of H6 - uncertainty risk and success

Kremic et al. (2006) suggest that if the setting or temperament of an engagement is uncertain, it may be increasingly difficult to successfully outsource particularly at a reasonable price in a stable long-term contract. Moreover, as per Willcocks et al., 1997, if the efforts, necessities, or costs linked to an activity are uncertain, charging a reasonable price is a difficult decision for the potential supplier. Consequently, suppliers may demand an increased price to undertake the extra risk. Further to increased prices, Laabs (1993) argue that there arises possibilities of various problems with such engagements during the entire timeframe. Downey (1995) states that increased uncertainty results in more difficulty in defining the requirements and expectations of the engagements.

In countries where formal arrangements are the norm, loose definition of deliverables often results in change requests from the suppliers leading to unexpected costs, and in few cases a negative impact (due to uncertainties) on offshoring relationships which results in the lack of trust (Kremic et al., 2006). In general, success in outsourcing is achieved when uncertainty risks are minimised and well mitigated (Willcocks et al, 1997; Sabherwal, 1999).

Aubert et al. (2004) confirmed this specific conclusion by finding that uncertainty reduces the volume of outsourcing. On the other hand, Poppo and Zenger (2002) were unable to determine a connection between level of outsourcing and technological uncertainty. Similarly, Walker and Weber (1987) discovered uncertainty has no direct effect on outsourcing success.

While trying to find relevant connection between the results obtained for this hypothesis (H6) the researcher noticed, there is not much of literature evidences (from the standard sources that were used by the researcher) that established a very rich theory/literature linking minimising uncertainty risk with facilitating overall outsourcing success. *Therefore, the hypothesis H6, coupled with its outcome can be considered as a valuable contribution.*

Lastly, based on the literature, initial assessment by practitioners and pilot study, the researcher tested the hypothesis on the most important consequence of trust as hypothesis H7.

Hypothesis 7 (H7): There is a positive and significant relationship between trust and IT offshoring success.

Table 5.10 presents an empirical evidence that hypothesis H7 is supported, and the path relationship significance between trust and success (β = 0.288) was found significant with p≤.05 and t-statistics 2.644.

The path significance values denote strength of relationship between two variables. In this case, the two variables are trust and outsourcing success respectively. Whereas R^2 value is the measure of variance, explained in the relationship or the measure of predictive power of the model structure. The value for R^2 of outsourcing success reflected in the computation was 0.607 and is significant at p≤ .05. The structural model was therefore evaluated based on the estimations of and path significance values and predictive power value.

The above findings are aligned with the theory (SET) and literature.

Referring the study of Lee and Kim (1999), outsourcing success, in this study, was measured from two perspectives namely, specific to a client firm and strategic benefit perspectives (both affecting client's business). From the latter perspective, the success of IT offshoring engagement can potentially be evaluated with the measure of achievement of a strategic benefit (the survey question in this study stating the ability of a firm to focus on its core competence by outsourcing routine activities); technological benefit (a survey question in this study stating the ability of

a firm to gain access to world-class IT skills and to hedge the risk of technological obsolescence) as result of dyamic behaviour of IT industry (Saunders et al., 1997; Grover et al., 1996). From individual client perspective, IT offshoring success can also be measured by the quality of services offered by the supplier (Lee and Kim, 1999). This definition of success leads to a set of principles leading, governing and managing the relationship in the engagement.

As per Anderson and Weitz (1989), trust is an important aspect in the success and development of inter-organisational relationship leading to partnership and strategic alliance thus having a significant influence on outsourcing success and partnership alliance (Grover et al., 1996; Lee and Kim, 1999). Studies reveal that trust has several positive effects on outsourcing success such as: information quality improvement, betterment of system reliability and perceived fulfilment of delivery target (Ring and Van de Ven, 1994). Additionally, it allows to focus on strategic objectives by delegating the operational issues to the supplier (Zaheer et al., 1998). Consequently, developing trusting relationship reduces uncertainty risks such as market, technological, business and HR (Sabherwal, 1999). Trust encompasses reliability, stability and high-performance (Grover et al., 1996) and these potentially lead to the success of IT offshoring.

Therefore, the hypothesis support of H7 is well supported by the literature.

6.4.3 Triangular relationship of trust, uncertainty risk and success

Strategic alliance theory acknowledges the interactions between trust and risk for the success of an offshoring alliance (Gulati et al., 1994) as well as attention to process (Doz, 1996; Gulati et al., 1994), and creating joint value (Doz and Hamel, 1998). For example, when suppliers are invited to negotiations with clients, the suppliers make decisions related to the success, benefits and risks in the proposed scope of an outsourcing deal. This eventually develops a trust-based relationship which is characterised by offers and counter offers between the clients and suppliers where efficiency and equity (Ring and Van de Ven, 1994) are central to outsourcing success management.

Risk being the central in this triangular relationship it appropriately establishes a link with the strategic alliance literature that has developed a frame of reference managing risk (Delerue, 2004; Das and Teng, 2004). The literature on strategic alliance identifies the framework developed by Das and Teng (2002) as the basis for studying how clients/outsourcers and suppliers manage success through trust development and risk management in business critical IT offshoring.

Much research on trust linked with success and uncertainty, is studied. It has been suggested that, trust enables , higher quality deliverables, increased performance and reduction of uncertain risk elements in the relationship (Rousseau et al., 1998; Kanawattanachai and Yoo, 2002; Morgan and Hunt, 1994). Sabherwal (1999) also suggests the role of trust in offshore IT projects is critical and helps increase the likelihood of success by minimising uncertainties. Other studies similarly claim, trust helps minimize unknown complexities and risks especially while decisions on new technologies are considered (Pavlou and Gefen, 2004; Gefen, 2002).

IT offshoring is considered to be a risky practice in business (Aubert et al., 2002). In view of this several client firms decided to reverse-integrate the offshored practice back to the in-house (internal) model as their engagements did not meet with expectations (Lacity and Willcocks, 2001). Also, the literature on ADM, BPO and ITO recognised the significance of risk assessment (Currie, et al., 2003; Clark et al., 1995). Most clients become risk averse if the perceived risk appears to be high (Campbell and Goodstein, 2001).

IT sourcing function of various organisations, studied the relationship between risk and success (Ring and Van de Ven, 1994; Lee, 1999) and found a reciprocal relation between trust and uncertainty risk. Also, the literature evidence exist that states risk is a precondition for the occurrence of trust (Williamson, 1993; Coleman, 1990). Therefore, it can be concluded that reduction of uncertainty risk is a consequence of trust cultivation. In an IT offshoring engagement, if a client recognises lower perceived risk, then will a higher likelihood for building trust (Kim et al., 2007) and achieve overall success in the outsourcing engagement.

In this study, the triangular relationship between trust, uncertainty risk and success was adapted from Das and Teng (2001) and Lee et al. (1999) which talked about a similar model with constructs of risk, trust and control in strategic alliances and other inter-organisational relationship.

However, in this study, the minimising uncertainty risk construct is not considered as a mediator between the trust and outsourcing success constructs as the path significance for all three relationships were found highly significant.

Although there may be a varied set of reasons for firms deciding to offshore their activities or processes, there is no standard rule based system available to help decide if it is worthwhile or not. It might be for the reason to refocus on core competencies (RBV) or for achieving lower transaction costs (TCE). There are various theories and past studies that highlight the costs of offshoring influencing the decision on type of offshoring model to select (section 2.2.1). However, this study is primarily focused on making the outsourcing engagement, particularly when the decision on IT offshoring has been taken and how to make it work between the client and supplier through a trust-based relationship approach (SET) with bounded rationality (Simon, 1991) rather than relying too much on a legal contract. The correct analysis and implementation of trust-building mechanisms therefore is crucial to achieve an overall success in IT offshoring (Han and Mithas, 2013; Moe et al., 2014).

The researcher therefore empirically tested all the hypotheses developed in the conceptual framework and the supported ones that can now considered as valid hypotheses for cultivating a trust-based relationship intensity focussed approach (founded on SET) towards IT offshoring success.

6.5 Summary

This chapter interpreted the results of the analysis and discussed the answers from the tests carried out with quantitative analysis (path model using SmartPLS).

The conceptual framework suggested is based on critical success factors that are relevant for IT offshoring relationships. Based on the literature survey, pilot and main study,the researcher validated the conceptual framework with seven critical success factors, namely, legal contract, relationship-based investment, information and knowledge sharing, information security, trust, uncertainty risk and outsourcing success.

Upon discussing all the critical success factors and their importance in the realm of IT offshoring, the researcher interpreted the validity of the conceptual framework in two parts, namely, antecedents and consequences of trust (based on the conceptual framework and the hypotheses). It discussed as to which critical factors were more relevant for developing trust (as antecedents of trust) and what hypotheses supported through the path model test. It was found that except legal contract, the other three (namely, relationship-based investment, information and knowledge sharing and information security) critical factors and associated hypotheses (H2, H3 and H4) were well supported and in line with the literature/theory as well. These were discussed in detail with the test data, analysis results and literature support/viewpoints. Based on the literature reviews, reasoning and main study empirical results, the researcher tested the hypothesis (H1) on legal contract establishing that trust in IT offshoring is not significant. This finding is contrary to the literature and is one of the valuable outcomes this study.

The researcher discussed in detail the central construct of the conceptual framework (trust) and the reasons for the cultivation of trust in IT offshoring engagement management from relationship intensity significance point of view. Trust antecedents discussed in line with hypothesis test results as a way to develop trust in such an engagement between client and supplier.

The consequences of trust discussed through the conceptual model and empirical analysis. Interestingly, all the consequences of trust (and associated hypotheses H5, H6 and H7), namely - minimisation of uncertainty risk and outsourcing success, were highly supported (based on path model test).

Also, the triangular relationship between trust, uncertainty risk and success was developed as a subset of the conceptual framework. Though in some literature, one of the constructs acted as a mediator where one of the paths failed to support the corresponding hypothesis. However, in this study the minimising uncertainty risk construct (the indirect relationship between trust and success) was not proved to be a mediator in the triangular relationship structure as the path significance for all the three relationships were found significant.

A comprehensive framework was successfully developed and empirically validated under this study with tested hypothesis that will assist IT practitioners in acquiring a device to be able to increase trust and thus achieve success in IT offshoring.

Chapter 7: Conclusions and Future Research

7.1 Introduction

This chapter outlines the overall conclusions of the study, including brief summary of outcomes from data analysis thereby concluding the main contributions of the study. The contribution of the study is enumerated in two sections as theoretical and practical respectively. The contribution section is also supplemented with implications and suggestions for the clients in the IT offshoring practice. This is followed by outlining the limitations and future research scope of the study. This chapter culminates with an epilogue that portrays a personal development perspective on the overall understanding that the researcher achieved through the research process of this study over the past 3 years.

7.2 Broad outcome of the study

IT offshoring has become an alternative or complementary process to deliver IT projects. IT offshoring has been growing at a fast pace and is expected to rise. The key motivating factor for companies deciding for IT offshoring is to focus on their core business. Some of the prominent drivers of IT offshoring are: increased customer satisfaction, lower costs, time to market, capability to focus on core competence and enhanced productivity.

Inspite of these advantages, several clients have been discontented with offshoring. There has been a bundle of problems with IT offshoring which include inadequate service, dearth of supplier commitment and incompetence of supplier (Gorla and Lau, 2010) etc. IT offshoring is therefore considered as a risky practice as well.

An abundance of outsourcing literature is present focussing on the benefits, risks, process, contract, communication and culture. In spite of the suggested importance of relationship attribute by many researchers, there are insignificant evidences of

studies in relationship management in IT offshoring. Thus, this study was conducted as a response to the suggested need for research enumerated by existing studies.

The central theme of the study is founded on social exchange theory (SET) in the domain of relationship management. This theory upholds the fact that client-supplier relationship may be closely bounded and yet simultaneously offer the required flexibilities to perform. This may not always be an instinctive approach in IT offshoring engagement management. In the current global IT outsourcing scenario, facing with challenges of numerous engagement failures, force the client firms to increasingly adhere to IT offshoring practices through rigid contracts. These contracts suppress flexibilities making relationships vulnerable and limit long term relationship maturity.

This study predicted that successful outsourcing relationships will be with preferred and trusted suppliers and greater importance should be given to relationship success through a trust based approach. This study appreciates and incorporates two important sides (hard and soft) proposed by Barthélemy (2003) for managing IT outsourcing engagements. The empirical results show a positive influence of soft side on success while the hard side (enforcement of a contract) had a negative outcome in establishing client-supplier relationship

The literature evidence of trust being a critical factor in other outsourcing discipline was adapted as a premise in this study and it has proved to be a significant factor enabling risk reduction and success in the context IT offshoring as well. Interconnection of risk and trust is classical to any relationship and more important in this kind of relationship as these often comprise of an escalated degree of interdependency between clients and suppliers.

Cultivation of trust can also reduce transaction and agency costs. Moreover trust enhances creativity and inter-organisational knowledge sharing and increases organisational capabilities through collaborative team work. Also, a high level of trust is responsible for increasing cooperative behaviour among outsourcing partners, thereby boosting partnership performance levels.

Literature reveals that lack of relational intensity witnessed nearly majority of failures in IT offshoring engagements (Foote, 2004; Moe et al., 2014). Also, inadequate trust levels between the partners mostly results in diminished efficiency and output because both parties scrutinise transactions and analyse the other party`s integrity, commitment and reliability.

This study was conducted to validate critical factors towards trust development and the consequences of that on the outsourcing success primarily from the client's perspective. Therefore, the perspective that is prominent in this study is by analysing the following question:

- **Who needs trust from whom?**

Available literature and prior empirical studies recommend that most engagements lack clients trusting their suppliers thereby making legal contract (contract management) as the only means of monitoring, control and performance measurement. Also, Moe et al. (2014) supported this argument stating that most failures occur due to the lack of client's trust on the supplier. Whereas, other studies conducted from supplier's perspective state that suppliers usually trust their clients. However, clients don't need to work hard to achieve supplier's trust. Their study revealed that supplier's meaning of 'trustworthy clients' is for the reasons that they are able to get their payments released on time and obtain credible information on the engagement when needed. Therefore, suppliers are keener to earn trust from their clients and not vice-versa (Ali-Babar et al., 2007; Oza et al., 2006).

Therefore, this study is focussed on enabling clients developing trust on their suppliers through the application of a conceptual framework as a reference tool.

More a client organisation trusts the outsourcing supplier, it is ready to hand over multiple assets to the supplier, but there still remains uncertainty in the relation to the ownership of assets. Several questions arises here as to how would the client deal with a dis-engagement from the supplier? In such a situation what would happen to the assets/resources that the organisation had handed over to the

outsourced supplier? There should be a backup plan that the organisation draws up to manage such situations. These questions makes this underlying factor strong that a healthy relationship based on trust, is able to increase the durability of the engagement thereby repaying the investments gained over time through continuos substantial return on investments. Hence, IT offshoring success could be accomplished by enhancing reliability and relationship intensity through trust building.

This study therefore considered an integrated view of relationship intensity as 'trust' with all theoretically linked relationship attributes of trust configured into one single construct to make the framework less complicated. The critical factors responsible to cultivate trust were identified (through systematic literature review) and hypothetical relations established between these variables (antecedents of trust) and trust. The other half of the conceptual framework comprised of critical factors like uncertainty risk and success denoted as a triangular structure called consequences or performance effect of trust. The validation was carried out by PLS path model and results matched with the literature of related studies.

Validated conceptual framework directs towards some practical recommendations for managing IT offshoring relationship success. Identification and influence of critical factors enabling cultivation of client's trust on supplier. The framework is certainly applicable to improve the relationship between clients and suppliers making it appear like a simple concept. However, the aspect of relevant critical factors needed for trust cultivation is the heart of the validated conceptual framework.

The validated conceptual framework can potentially act as a frame of reference for trust building studies and practice in the context of IT offshoring.

This study accomplished the following aim and objectives:

The aim achieved:

- Made theoretical and practical contribution by studying the interplay between the critical factors influencing the relationship intensity level of the

exchange partners and suggested measures that can potentially increase the success rate in IT offshoring engagements.

The objectives achieved:

1. Identified the relevant critical factors and explored its causes and effects (antecedents and consequences) on the relationship intensity significance level.
2. Developed an integrated conceptual framework combining the hypothetical relationship among these identified critical factors.
3. Empirically validated the conceptual framework by hypothesis testing.

The first objective and logic behind the second was accomplished by addressing three research questions identified at the beginning of the study based on empirical examination and backed by literature evidences. The other two objectives are addressed through development and validation of an integrated conceptual framework by analysing related studies across other disciplines, gaps in the existing theories and models, in the larger outsourcing literature.

7.3 Research methodologies adopted

The positivist perspective of research was followed in this study. From the point of view of a methodological perspective, this research is well suited in a quantitative paradigm with a survey research strategy for collecting the data. Sekaran's (2000) suggested certain steps of the research process which were adopted. These include, the purpose of the study as hypothesis testing and the unbiased role of the researcher.

The special and unique contribution of this study in the research methodology is the rational approach used to carry out the context relaibility and validity with the practitioners in Europe. Besides formulating the framework with literature gap, organisation theory support and evidence, the reality check in terms of industry relevance (context and content validity checks) is carried out with the developed

conceptual framework assessment by a panel of IT offshoring industry practitioners, well before conducting the main study.

The study setting is realistic, unit of analysis is the individual outsourcing client firm(s) and the time frame is cross-sectional. Likert scale was used to measure the intensity of response for the construct items.

All the measurement items for the constructs are adapted from validated studies in the literature from across other disciplines related to outsourcing practices. Clients in Europe participating in IT offshoring being the target population, the data collection was initially perceived to be not so difficult. However, as the unit of analysis is individual client firm, it was rather tedious to get the response from senior management authorised to participate in such research studies.

In the survey, the senior management respondents had undertaken the role of authorised representative of firms and furnished information as a consolidated organisational experiences rather than their personal experience and perception.

7.4 Summary of findings

Both literature and results reflect several critical factors as antecedents that determine IT offshoring clients' trust towards its suppliers leading to positive consequences of uncertainty reduction and success. Therefore, in the conceptual framework path relations the following hypothesis were proposed and validated, as follows.

Not supported hypothesis:

Legal contract

- A well framed, scoped and mutually agreeable contract has a positive and significant effect on the overall trust in IT offshoring relationship (H1).

The above result is a deviation from the existing theories (AT and TCE) and literature.

Supported Hypotheses:

- The relationship-specific investments have a positive and significant effect on the overall trust in IT offshoring relationship (H2).
- Information and knowledge sharing have a positive and significant effect on the overall trust in IT offshoring relationship (H3).
- Information security has a positive and significant effect on the overall trust in IT offshoring relationship (H4).
- Trust has a positive and significant effect on minimising risk of uncertainties in IT offshoring relationship (H5).
- Minimising uncertainty risk has a positive and significant effect on IT offshoring success (H6).
- Trust has a positive and significant effect on IT offshoring success (H7).

In order to raise the chance of success of an IT offshoring engagement, this study views that organisations need to consider three areas: critical factors (particularly the antecedents of trust), uncertainty risks and relationship management approach (trust based).

According to this study, the overall success of the engagement can be attributed to the following outcomes from empirical examination:

- Not to rely much on tight and inflexible legal contracts.
- Developing and complying with robust information security practices, promoting relationship-specific investments reflecting increasing commitment on the relationship tenure and creating an effective platform for communication and information and knowledge sharing.
- Cultivating a healthy trust-based understanding in the relationship is the core element to be able to foresee and manage uncertainty risks and overall success.

7.5 Research questions addressed

Critical factors are defined as the conditions which are inevitable to increase the possibility of success. The outsourcing literature revealed certain critical factors cultivating and influencing trust between organisations engaged in outsourcing.

The literature evidences were considered while developing an integrated conceptual framework and later validated empirically. This study successfully addressed the research questions that were identified to accomplish the first and part of the second objective of this study, are as follows.

Question 1: What are the critical factors for the overall success of IT offshoring relationship?

Through literature review, initial practitioners' assessment of the conceptual framework design and empirical investigation, emerged that six relevant critical factors influence the **success** of IT offshoring relationships. These are:

1. Legal contract
2. Relationship-specific investment
3. Information and knowledge sharing
4. Information security
5. Trust
6. Minimisation of uncertainty risk

Question 2: What are the antecedents or determinants (cultivating factors) of trust in IT offshoring relationship and how do they influence trust?

Both literature and the study results reflect three relevant critical factors as antecedents that determine IT offshoring clients' trust towards its suppliers. The empirical results reveal following critical factors determine (antecedents) the outsourcing client's trust towards the supplier.

- **Relationship-specific investments** : Preserving and continuing with a suitable level of relationship-specific investment to reflect long-term commitment;
- **Information and knowledge sharing**: Maintaining and improving the practice of information and knowledge sharing in quality, on-demand, on time with clients;
- **Information security**: enhancing information security practices to suit the client's desire to protect confidential business data and their intellectual property.

Question 3: What are the consequences of trust in IT offshoring relationship and how are they influenced by trust?

The role of trust development and maintenance is critical in IT offshoring and can increase the possibility of success through reducing uncertainties. In this study, IT offshoring **success** was measured through a *triangular path relationship* with **trust** and **uncertainty risk** including three hypotheses validated empirically.

The validated conceptual framework also reflects positive consequences of trust development towards the overall IT offshoring relationship intensity and when uncertainty risk is reduced, it influences positively on the overall outsourcing success.

7.6 Research Contributions

This research makes theoretical and practical contributions, and discussed in the following sub-sections.

The main contribution to theory is the outcome that brings a considerable deviation from prior research and organisation theory, AT in particular. This is articulated in the following section. The conceptual (theoretical) framework developed on the foundation of SET interweaving associated theories, with relevant critical factors is another contribution towards strategic management theory, depicting through the structure and inter-relationships of constructs used in the conceptual framework.

7.6.1 Theoretical framework and contribution

The critical factor 'legal contract' and its optimistic relationship with trust is adapted from models suggested by Barthélemy and Geyer (2005); Kern and Willcocks (2000); Currie and Willcocks (1998) and Lee (1996). As recommended by Lacity et al. (1994) and Lee et al. (2004), legal contract is a vital and sole instrument that can guarantee accomplishment of expectations in an outsourcing engagement. Also, Lee (1996) and Currie and Willcocks (1998) claim, in an outsourcing engagement, risk of failure is enhanced with a loose contract, while most expectations can be achieved with a tight contract. Hackney and Hancox (2000) view, relationships thriving on loose contracts are more likely to fail. Further, Barthélemy and Geyer (2005) recommend that in order to protect client interest against loss of control, a tightly defined contract is a vital instrument. Elaborating Poppo and Zenger's (2002) view, a well specified formal contract endorses increased trusting, long-term and mutually cooperative relationship.

In addition to the above, one of variants of trust called ***"Deterrence-based trust"*** (Appendix 1) is primarily based on the computation of rewards and penalties. As viewed by Shapiro et al. (1992), this form of trust is typically based on the behavioural consistency ensuring that the transacting partners will perform as agreed upon initially. This is purely based on the fear factor of the consequences of failures.

Agency Theory also supports the existence of legal contract to have better control on the supplier. The legal contract factor is primarily aligned with agency theory which propagates, contract being the foundation of managing a client-supplier relationship (Jensen and Meckling, 1976). It builds client-supplier rapport through reward-penalty mechanisms. It concerns the incompatible goals between suppliers and clients. It is necessary to coordinate the different interests of clients and suppliers in order to facilitate the success of IT outsourcing/offshoring. This co-ordination and better control is achieved through a legal contract which is stated to be a necessary element towards relationship building.

However, this study revealed a complimentary approach to the Agency and TCE theories, which underpins the relationship-intensity focus (SET) having trust as the central theme that can help manage the potential risks and uncertainties leading to success. Earlier related studies emphasised on the enhancement of reliability and control through tight contracts and the performance was measured against the scope and achievements only. These were essentially driven by the clauses on SLAs/KPIs, rewards/penalty and stated achievement milestones. As most contracts are incomplete in nature, uncertainty risks, especially the peripheral ones, can potentially be managed well through the development of trust between the exchange partners.

Furthermore, from the theory perspective, Agency Theory (AT) also supports the importance of legal contract to achieve an effective control on the supplier. Incidentally, it also builds client-supplier rapport through reward-penalty instruments. AT suggests mechanisms to manage the concerns of incompatible goals of the suppliers and clients. Therefore it propagates that the effective co-ordination and better control is achieved through a well-structured legal contract which is considered to be a necessary towards relationship building. Hence, 'legal contract' established a direct relationship with 'trust' in the theoretical framework, based on relevant literature evidences.

However, this study contributes with a different view that it is necessary to shift from a standard agency theory based relationship to a partnership driven approach.

Although it is difficult but aiming and working towards a balanced/committed partnership relationship between both parties is quite critical. This is particularly necessary when both parties expect the outsourcing engagement to succeed, survive and continue long-term in the advent of changing business models posed with too many challenges.

Therefore, this research recommends fostering a healthy engagement through relational governance could be the sole reason by which neither party should feel the need to repeatedly refer back to the signed legal contract. Hence, this study clearly explains the **insignificance of the relationship between legal contract and trust**.

This research also compliments the prior qualitative studies by blending organizational theories and empirically validating the proposed conceptual framework using SET and positivist approach. The contribution may be quite significant in the domain of relationship management which has not been studied so extensively previously. This is achieved through development and validation of an integrated conceptual framework, as the main contribution of this study, based on the recommendations of Dibbern et al. (2004) and Kern and Willcocks (2000), thereby filling the identified gap in the literature.

The conceptual framework is primarily founded on the Social Exchange Theory (SET) from the relationship intensity perspective, considering trust (relationship intensity) as the central theme. The outcome of this study enriches and compliments the theoretical knowledge in the domain of IT offshoring from the perspective of linking other established/practiced organization theories in a seamless manner to display the blended versatility of the framework. The foundation of SET visibly intertwines other established organization theories backed with literature evidence thereby making the conceptual framework not only unique but also comprehensive.

This study also revealed a unique triangular relationship between trust, uncertainty risk and success, within the conceptual framework which is depicted as “rationality” (section 2.6.7.3) supporting the Nobel prize winning theory of “bounded rationality” (Simon, 1991). The aspect of this triangular relationship between trust,

risk and success is also an important theoretical contribution, as none of the previous studies reflected this structure with these three critical factors in outsourcing studies.

7.6.2 Practical contribution

This study contributes through the conceptual framework that emerged from the knowledge derived from systematic literature review and views from industry practitioners in Europe. The knowledge was amalgamated demonstrating the relevance along with the drift of the reciprocal relations between the different constructs and assisted to define the probable outputs (through hypotheses testing) of the study towards answering the research questions.

Moreover, the researcher validated the central construct of the conceptual framework (i.e. trust) and established its importance both from cultivation as well as consequences, in the context of IT offshoring engagement success. In relation to this, the relevant antecedents of trust were validated in line with the hypothesis test results as a mechanism to develop trust in IT offshoring engagement between clients and suppliers.

This study developed and successfully tested an integrated and comprehensive conceptual framework that provides practitioners an instrument to assist trust building, minimize uncertainty risk and raise success level in IT offshoring. This study makes the following specific contributions in terms of its practical applicability:

1. The basis of development of the conceptual framework and hypothetical relations with the associated critical factors came from other disciplines. Hence, the reverse integration of this validated conceptual framework can be applicable in other outsourcing disciplines as well, besides using it for other types of IT outsourcing models (e.g. captives, JV, indirect third party and domestic/in-country outsourcing).
2. It proposes a conceptual framework based on a detailed and critical literature review followed by initial assessment by industry practitioners. The uniqueness of the framework in IT offshoring domain is objective of

cultivation of relationship intensity based on 'trust' as the core concept (central theme).

3. The conceptual framework can be mirrored and applied to any other client-supplier contractual engagement (besides IT-outsourcing) as well, because 'trust' as a relationship intensity concept is applicable in any exchange relationship.
4. The results of this study will also be useful in terms of adopting the conceptual framework linked with hypotheses as an added layer on top of existing engagement models, to accomplish a healthy exchange relationship. However, a further deep dive and fine tuning the sub-units/composition characteristics of each critical factor may be needed, for individual outsourcing initiative(s).
5. This study is particularly relevant to the client-supplier firms already engaged in a relationship but can also be useful to those clients who are planning to bgein their journey in IT offshoring in the near future, as a preparatory/planning platform.

7.7 Research implications and suggestions for IT offshoring clients

IT offshoring is always faced with new challenges and may develop substantial risks for the clients if they are not managed properly. There are several management approaches available which can be applied to reduce such challenges.

There are significant legal challenges to IT offshoring, which makes the achievement of strong contracts difficult and enforcing the same even more challenging. As all the activities and operations cannot be closely monitored from a distance; development of trust to complement the legal contract demands more attention to combat these challenges. This makes effective information security and information sharing practices as a prerequisite for success.

The development of trust can be challenging in any cross-organisational relationship but it should be considered as a crucial part of the outsourcing relationship management. Tools and instruments to measure and build trust must

be central to the engagement philosphy. Consequently the variations in managerial responsibility, management styles, transparency and motivation can be managed through a collaborative monitoring system. A practical approach combining different factors to build trust and reduce uncertainties occurring can go much further than purely exercising the written set of rules.

Based on systematic literature review (Boland et al., 2013), not enough empirically validated studies are found identifying the relevant critical factors influencing the success of IT offshoring engagements. Literature specifically on offshoring is meagre but a diverse set of academic and practitioner literature on outsourcing combined with the empirical results of this study, the researcher suggests the following *guidelines*. These are some useful understanding germinating from trust cultivating mechanisms that may help client organisations increase the chances of IT offshoring success*:*

1. Cultivating supplier motivation through flexible contracts that aid in building trust as most contracts are incomplete, according to Bakos and Brynjolfsson (1993a).
2. Relationship-specific investments are beneficial in developing client's trust thereby encourage the supplier to consider this aspect seriously that may enable to earn client confidence in the long run.
3. As suggested by Poppo and Zenger (2002), the relational governance as a framework for control and monitoring combined with trust based relationship building enables reducing uncertainty risks;
4. Effective information and knowledge sharing practices enable implementation of robust risk mitigation strategies thereby improve performance management that positively influences the development of trust;
5. Focussing on a trust based relationship, encourages both parties, specifically the supplier to accomplish contracted tasks to exhibit enhanced performance thereby promoting performance beyond the contract.
6. Achieving greater allignment between scope, task, rewards, objectives and goals directing to the success of the engagement for both involved parties

(clients and suppliers). These can be accomplished through the concept of partnership model proposed by Das and Teng (2001), considering the fact that offshoring motivations within each organisation may differ significantly.

7. Cultivating institutional and individual trust help enable parties to execute services as expected in the contract, keeping a provision to make changes wherever necessary to tackle the uncertainty risk elements.
8. Dynamically improvised information security practice to safeguard client's confidential information assets, can help building trust and enhance the success of the overall engagement.
9. A bureaucratic and slow legal grievance handling system in the supplier's country maybe highly frustrating for the client. It can be resolved by assigning the jurisdiction to the EU court of law in the contract. As per outsourcing literature (Vagadia, 2012), the issues associated with severe violation of data protection clauses by several suppliers still remains as a cause for concern. Therefore, the European client firms are suggested to make their suppliers voluntarily agree to comply with the EU contract law and EU data protection practices.
10. Understanding mutual relationship among the three most inter-related trios (trust, uncertainty risk and success) in offshore engagements and making it a "three corners of success" model can help create appropriate mechanisms to assess them within the engagement.

7.8 Research limitations

The validated conceptual framework may be limited in terms of generalised industrial applicability. It may not be fully generalizable for all types of outsourcing, as IT offshoring is highly technology and people centric. Also, issues like legal contract, information sharing or information security are highly sensitive to offshoring engagements due to the teams being located out of distant geographical locations, making the offshore context more relevant than outsourcing within the same/local geography. Hence, the researcher views that its applicability in other

types of outsourcing may need some fine tuning and additional critical factors that may need to be embedded in the conceptual framework.

This study undertook a single respondent survey for each offshoring client, based on cross-sectional time frame with and therefore may have potential concerns linked with common method bias. The possibility for common method bias was taken care of while developing survey instrument. Appropriate tests were carried out to resolve this issue and no bias was found (chapter 4 and 5). However, an improved way to further validate the findings of this research is to conduct longitudinal data with the same set of clients over a substantial time frame (2-3 years).

As only 136 clients were investigated with specific regional/geographical coverage only, the results may not be considered as fully representative. Also, this study was conducted with European clients only with a representative number of responses taken into account while validating the framework.

Some elements of researcher bias may be a limitation though it's managed well. During the entire journey of research, this precautionary measure was executed by the researcher as he was cognizant of his professional background could have affected the outcome of the study. In order to overcome a possible researcher bias, the researcher frequently consulted the relevant literature, industry experts and academics, to minimise any subjective interpretations of data. Also, by using quantitative data analysis techniques and survey methods (rather than qualitative methods), any judgemental interpretations were considerably reduced.

The researcher used a multiple (five-point) Likert scale with all closed-ended questions in the survey. The merit of this strategy is that usually questions are easy to understand leading to consistent answers. But, there could also be some issues in the selection from a given set of multiple options. This may not offer the respondents enough scope to express their exact opinions making their responses not fully representive, as suggested by Cohen et al. (2011).

7.9 Scope for future research

The outcome of this empirical study, carried out in Europe, can also be tested in other regions as well in terms of it applicability. As per the researcher, usually clients across the globe tend to behave in a similar manner. Hence, it will be interesting to see if the framework needs modifications in a specific socio-cultural scenario.

The research also purely focused on offshore IT services outsourcing. Further research may be conducted to check the effects on local IT offshoring relationship between the clients and the suppliers or if the same framework can be applied to the local outsourcing engagements in a similar manner.

In this study, only the senior decision-makers representing various client firms (unit of analysis) engaged in IT offshoring were the survey respondents. It may be interesting and useful to compare the views of the lower strata of the client firm coupled with the ideas of the offshore supplier firms. Although the supplier side of trust was also considered in this research but the unit of analysis was client firms and their lack of trust in the supplier was found to be more relevant/prevalent.

Also, this study did not conduct any group analysis as it was not part of the conceptual framework. The grouping could possibly be done based on industry sector, revenue size and IT offshoring spend as control variables. This study was not particularly focussed on any specific industry sector. Hence, research carried out in financial services sector can be compared with telecommunication sector thereby understanding if there are any commonalities across industry sectors.

Other factors that were not undertaken by this study generates the need for a detailed investigation as these may also significantly influence IT offshoring success. Some of these factors can be cultural dynamics, relationship length, values and religious beliefs. A more integrated and balanced perspective including formal and informal mechanisms and analysing the interplay with outsourcing relationship issues might uncover some dimensions that may further improve the success rate.

7.10 Epilogue

This research study was conducted in the United Kingdom from February 2012 to April 2015. As per European economy this was a period of recession in general and in the IT in particular, this influenced the researcher's interaction with the sample population as well. This scenario also contributed to establishing a deeper understanding of IT offshoring practice as a whole. Due to this volatility in the market, clients started taking a further opportunistic attitude towards IT offshoring in order to maximize their benefits and reduce operational and support services costs. Also, the researcher had a better opportunity to intereact with the target community as they were more responsive and helped interacting with some of the major client firms contributing to the field of IT offshoring as a practice. This was particularly useful for the assessment of conceptual framework design.

While working in the industry, the researcher found that nearly every IT offshoring deal employed an offshore supplier. Hence, all the large IT services suppliers have been compelled to join the band- wagon of offshore services provisioning for their diversification, survival and growth.

This aspect motivated the researcher and he embarked on the journey to find how his industry experience can further be enriched by pursuing a structured research with both acedamic and emperical investigations. Though the researcher spent more than 20 years in IT sector, he was always under the impression that most challenges in this area are related operational issues. It was highly interesting to note that many of these operational difficulties can be well managed with relationship intensity development. The theme of trust is well acknowledged in the industry but the researcher often witnessed its practice being difficult because of commercial and legal reasons.

The findings from this study enlightened the researcher to develop a deeper understanding on critical factors enabling trust and success and developed a simple yet realistic framework that can add value to this area of outsourcing. The results emerged from this study takes into account the factors that are not the standard

and obvious ones in offshoring (e.g. cost, flexibility, skills, process, risk, culture and communication) but focussed on relationship intensity management aspect as the basis of the study. The researcher feels, with the above initiatives and study, there is some value added contribution made to this field of study through the development and validation of a conceptual framework based on exhaustive literature review and empirical investigations.

Through this study the researcher gathered a lot based on systematic literature review, quantitative analysis techniques and its interpretations. But importantly, the researcher has been encouraged by the supervisors to develop his research skills, scientific methodology, survey construction, data collection, usage of data analysis tools and techniques besides following a well guided approach throughout the research journey.

While conducting this research, the researcher developed various skills and knowledge base, both academic and practice based. Particularly, understanding the use of statistical analysis tools, interpret the results, relate it with the literature and finally validate them based on the analysis backed with literature evidence.

During this phase, the researcher was enlightened with the theories behind outsourcing applied in the context of IT offshoring. This was an added learning as the researcher always felt offshoring is a highly proven business practice that's purely based on commercial platform and it had practically never been challenged. This study was a kind of eye opener and clarified a lot of doubts the researcher had about the business practices favouring offshoring. The study certainly improved an analytical and established theory based understanding rather than a learning which is purely based on personal experience.

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Appendix 1: A variety of definitions of Trust

The definitions of trust are complex and cover different viewpoints. However, there are some common characteristics prevailing across various definitions of trust. Therefore, it is helpful to review some of the frequently quoted definitions across disciplines. Widely accepted definitions found on trust in the sociology (Gambetta, 2000), social psychology (Deutsch, 1962), organisational (Mayer et al., 1995) and management (Anderson and Narus, 1990) literatures are as follows:

- Gambetta's (1990, p. 82) definition of trust encompasses views of diverse disciplines and considers trust as: *"A particular level of the subjective probability with which an agent assesses that another agent or group of agents will perform a particular action, both before he can monitor such action (or independently of his capacity ever to be able to monitor it) and in a context in which it affects his own action".*
- Deutsch's (1962, p. 275) widely accepted definition of trust states that: *"a) the individual is confronted with an ambiguous path, a path that can lead to an event perceived to be beneficial (Va+) or to an event perceived to be harmful (Va-); b) he perceives that the occurrence of Va+ or Va- is contingent on the behaviour of another person; and c) he perceives the strength of Va- to be greater than the strength of Va+. If he chooses to take an ambiguous path with such properties, I shall say he makes a trusting choice".*
- Mayer et al.'s (1995, p. 710) definition also draws together multi-disciplinary views of trust. They define trust as: *"The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party".*

- Anderson and Naurs (1990 p. 45) define trust in the distributor-manufacturer working relationship. According to them trust is: *"Firm's belief that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm".*

These definitions give an essence of the different viewpoints on trust across disciplines in a plethora of journal papers. Section 2.6.4 presents a working definition in the context of IT offshoring relationships for this study (adapted from the above literature definitions).

Trust variants/types:

- **Deterrence-based trust**: a variant of trust that is primarily based on the calculation of rewards and penalties. Study conducted by Shapiro et al. (1992) reported on this form of trust is based on positive behavioural consistency the transacting partners exhibit that they had agreed upon. This is primarily based on the fear factor of the consequences of failure.

- **Knowledge-based trust**: When the exchange partners work together in a business relationship, usually knowledge about each other improves over time. Liwicki and Bunker (1996) stated that knowledge-based trust is primarily dependent on predictability aspect – 'knowing the other adequately enough so that the other's behaviour is foreseeable'. This permits the trustor to believe that the trustee's behaviour is predictable and trustworthy.

- **Identification-based trust**: When the transacting partners work strategically to achieve mutual objectives, this type of trust develops. Again, Liwicki and Bunker (1996) stated that identification-based trust can be assumed when the trustor can feel confident that their interests will be fully safeguarded without the need of any regular monitoring of the trustee.

Appendix 2: Review comments of IT offshoring practising client firms

No.	Outsourcing Client Org	Prelim review comments on the conceptual framework components/factors considered
1	JP Morgan Chase, UK	Good quality software at lower cost may be an important motivator but its sustainability is in question as the cost of living is on the increase at a much higher rate in offshore locations (like India) as compared to Europe. If the employee cost of the supplier/vendor keeps increasing it may affect the final price of the client as per the provision of annual price revisions clause in the contract.
2	GE Capital, UK	Our starting point was tech skills and flexibility but these are not relevant any more now. Cost, flexibility and quality are quite standard these days with our partner suppliers. We expect a serious investment to be made by our suppliers towards our dedicated offshore centres to remain engaged with us in the long term.
3	Marsh McLennan, UK	Communication between client and supplier may be hampered by differences in their culture, language, time zones and geographic distance. But in our case and most other cases here based on our experience, India and UK has a lot of similarities in terms of language, culture and communication standards making it less of a challenge.
4	Hudson Global, UK	Client and vendor should spend time together on the engagement, conduct regular meetings and build effective information sharing practice to manage offshore outsourcing relationships
5	ETF Securities, UK	While we spend so much of time for preparing most appropriate legal contracts but we hardly focus on trust aspect of offshore outsourcing relationships and I feel that's something which can make or break a relationship.
6	Colt Telecom, UK	Surely cost and tech skills are not the only reasons for offshoring, as far as our goals are concerned.
7	KBC Bank, Belgium	We feel investment in offshore development centre and technology/ skills are most important for achieving trust. Our suppliers took a lot of time to understand this.
8	Colruyt, Belgium	We never faced any issues due to distance, communication and culture. On the contrary we benefited from Indian suppliers when it came to urgency in delivery. They worked hard with extra time without any charges. We however felt a bit concerned about their ability to manage uncertainties.

9	CSS DualCom, UK	Cost is quite an obvious reason and very well practiced over the past so many years. Quality is also not a major concern as our Indian suppliers have maturity and we do business with CMM level 4 and 5 supplier companies. Most Indian suppliers have achieved high process maturity over the years.
10	Cerner Corporation, UK	Managing uncertainties is very challenging and critical in offshore outsourcing and that's the key to success. Other areas can be well addressed by internal and supplier processes.
11	British Airways, UK	Other attributes or factors like flexibility and resource allocation can still be managed by enforcement but trust can never be achieved without some basic practices of sharing information and other details on any likelihood of uncertainties.
12	Huawei Technologies, UK	We feel if the supplier invests into a relationship the confidence of the client can be built. Initially some of our suppliers did that after getting new requirements but only those succeeded who did that in anticipation of growth well ahead of time and built trust and confidence.
13	BNY Mellon Bank, UK	For us information security is a major concern and we do offshore outsourcing in infrastructure management with only our own (captive) supplier in India.
14	NHS Trust, UK	Security of our patient data is extremely important for us. We always feel nervous about it when it comes to data protection. Therefore, we do offshore outsourcing with only trusted suppliers.
15	TRW, Germany	We thought flexibility of offshore suppliers is the most attractive proposition. But we realized it's not practiced well when we were in actual need of this. Rather, having a well scoped legal contract is extremely important as it saves us from unnecessary demands made by our suppliers in terms of price and change requests

Appendix 3: Review comments of practising firms grouped in various critical factor categories

Cost and quality	Comments of client organization(s) representative
1	Good quality software at lower cost may be an important motivator but its sustainability is in question as the cost of living is on the increase at a much higher rate in offshore locations (like India) as compared to Europe. If the employee cost of the supplier/vendor keeps increasing it may affect the final price of the client as per the provision of annual price revisions clause in the contract.
2	Cost, flexibility and quality are quite standard these days with our partner suppliers.
3	Surely cost and tech skills are not the only reasons for offshoring, as far as our goals are concerned.
At the outset the researcher did not consider the factors like cost savings, quality and process maturity of the suppliers as critical factors as these factors are similar for all types of outsourcing. Also, this is supported by the practitioners' viewpoints.	

Technical skills and process maturity	Comments of client organization(s) representative
4	Our starting point was tech skills and flexibility but these are not relevant any more now.
5	Surely cost and tech skills are not the only reasons for offshoring, as far as our goals are concerned.
6	Most Indian suppliers have achieved high process maturity over the years.
7	Our Indian suppliers have maturity and we do business with CMM level 4 and 5 supplier companies.
Therefore, based on literature and supplemented by review comments of practitioners, the researcher decided not to consider these factors towards the final build of the conceptual framework.	

Flexibility	Comments of client organization(s) representative
8	Our starting point was tech skills and flexibility but these are not relevant any more now.
9	Other attributes or factors like flexibility and resource allocation can still be managed by enforcement ……
10	We thought flexibility of offshore suppliers is the most attractive proposition. But we realized it's not practiced well when we were in actual need of this.
Though this factor was initially being considered but after conducting reviews with practitioners on the above point, it was found that this factor not being considered as part of the conceptual framework was well justified.	

Legal contract	Comments of client organization(s) representative
11	We thought flexibility of offshore suppliers is the most attractive proposition. But we realized it's not practiced well when we were in actual need of this. Rather, having a well scoped legal contract is extremely important as it saves us from unnecessary demands made by our suppliers in terms of price and change requests.
12	Other attributes or factors like flexibility and resource allocation can still be managed by enforcement ……
13	If the employee cost of the supplier/vendor keeps increasing it may affect the final price of the client as per the provision of annual price revisions clause in the contract.
14	While we spend so much of time for preparing most appropriate legal contracts but we hardly focus on trust aspect of offshore outsourcing relationships and I feel that's something which can make or break a relationship.
This factor is considered to be one of the challenges towards managing IT offshoring relationship and thus was maintained in the conceptual framework and later validated in the main study.	

Information security	Comments of client organization(s) representative
15	For us information security is a major concern and we do offshore outsourcing in infrastructure management with only our own (captive) supplier in India.
16	Security of our patient data is extremely important for us. We always feel nervous about it when it comes to data protection. Therefore, we do offshore outsourcing with only trusted suppliers.
The factor on information security was seriously considered as one of the critical factors in the IT offshoring relationship, based on the literature survey. This was also equally suggested by the practitioners in this review.	

Culture, communication, language, distance	Comments of client organization(s) representative
17	Communication between client and supplier may be hampered by differences in their culture, language, time zones and geographic distance. But in our case and most other cases here based on our experience, India and UK has a lot of similarities in terms of language, culture and communication standards making it less of a challenge.
18	We never faced any issues due to distance, communication and culture. On the contrary we benefited from Indian suppliers when it came to urgency in delivery. They worked hard with extra time without any charges.
The practitioner's views were quite mixed about these factors and hence not considered for the inclusion in the conceptual framework.	

Relationship specific investment	Comments of client organization(s) representative
19	We feel investment in offshore development centre and technology/ skills are most important for achieving trust. Our suppliers took a lot of time to understand this.
20	We expect a serious investment to be made by our suppliers towards our dedicated offshore centres to remain engaged with us in the long term.
21	Other attributes or factors like flexibility and resource allocation can still be managed by enforcement but trust can never be achieved without some basic practices of sharing information and other details on any likelihood of uncertainties.
The relationship specific investment factor in the conceptual framework, as considered by the researcher, was adequately supported by the practitioner's viewpoints.	

Information sharing	Comments of client organization(s) representative
22	Client and vendor should spend time together on the engagement, conduct regular meetings and build effective information sharing practice to manage offshore outsourcing relationships.
23	Other attributes or factors like flexibility and resource allocation can still be managed by enforcement but trust can never be achieved without some basic practices of sharing information and other details on any likelihood of uncertainties.
Information sharing factor in the conceptual framework was equally substantiated by the practitioner's viewpoints and thereby it's maintained as one of the critical factors in the conceptual framework.	

Trust	Comments of client organization(s) representative
24	While we spend so much of time for preparing most appropriate legal contracts but we hardly focus on trust aspect of offshore outsourcing relationships and I feel that's something which can make or break a relationship.
25	We do offshore outsourcing with only trusted suppliers with open and involved communication and based on co-operative performance with the distributed teams across various geographies.
26	We feel if the supplier invests into a relationship the confidence of the client can be built. Initially some of our suppliers did that after getting new requirements but only those succeeded who did that in anticipation of growth well ahead of time and built trust and confidence.
Relationship intensity emerges from closeness, relationship strength and quality. The variables that could be employed to measure the level of relationship intensity may include trust, commitment, dependence, benefit and risk share (Morgan and Hunt, 1994). Also Bove and Johnson (2001) proposed two key attributes of relationship intensity, trust and commitment. Therefore, the researcher configured all the above related factors under one main construct as trust, in the conceptual framework	

Uncertainty risk	Comments of client organization(s) representative
27	Managing uncertainties is very challenging and critical in offshore outsourcing and that's the key to success. Other areas can be well addressed by internal and supplier processes.
28	We however felt a bit concerned about their ability to manage uncertainties.
29	Other attributes or factors like flexibility and resource allocation can still be managed by enforcement but trust can never be achieved without some basic practices of sharing information and other details on any likelihood of uncertainties.
The economic theories that are most relevant to the study of IT outsourcing uncertainty risks are Transaction Cost Economics (TCE) and Agency Theory. Built on the assumptions of bounded rationality and opportunism (Gopal et al., 2003). This was also well acknowledged by some comments from the practitioners. The researcher had therefore considered to keep uncertainty risk as constructs in the conceptual framework.	

Appendix 4: Questionnaire

Questionnaire – Development and Validation of a Conceptual framework for IT offshoring engagement success

Dear Sir / Madam,

This survey is conducted as part of above mentioned research undertaken and the data collected will be used in the analysis which shall be included in the researcher's PhD study/thesis undertaken at the University of Bedfordshire, Luton, United Kingdom.

The objective of this research is to assess the critical factors in offshore IT outsourcing relationship development between the clients and suppliers, in the context of client community in Europe. The target respondents are IT Outsourcing related decision makers who represent client/buyer organizations that have/had offshore IT outsourcing engagement(s) in their business. The results of this research will be shared with the respondents, if they are keen to know, and will be notified at an appropriate time.

Kindly answer **ALL questions**. Your response to each question in this questionnaire will only be analysed in aggregate forms. All personal and company information will be treated with strict confidentiality (and will not be revealed to anyone) and shall only be used for the purpose of this academic research. The data collected through this survey will not be misused or misrepresented at any time. The participation is completely voluntary and the data/information/views provided will never be shared with anyone anytime. The survey may take approximately 15-20 minutes.

Should you have any questions or comments regarding this questionnaire, please do not hesitate to contact the researcher via email at shantanu.banerjee@beds.ac.uk or call +44- 784- 167- 2003.

I thank you for your valuable contribution in participating in this survey. Your participation is very much appreciated.

Yours sincerely,

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Questionnaire starts here

Instructions :

- Please indicate how strongly you **agree** or **disagree** with each statement.
- Please tick the box which represents your degree of agreement based on the 5- point scale as below.

1	2	3	4	5
Strongly Disagree	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**

SECTION A – CRITICAL FACTORS

Instruction: Please tick (√) for the answer and fill in the blanks when necessary

1.	**Legal contract**	**1**	**2**	**3**	**4**	**5**
LC1	Scope is well defined.					
LC2	Milestones are clearly defined and mutually agreed.					
LC3	Measurable SLAs are clearly enumerated and mutually agreed.					
LC4	Mutually agreed "Rewards" and "Penalty" clauses are based on KPI achievements and clearly built into the contract.					
2.	**Relationship specific investment**	**1**	**2**	**3**	**4**	**5**
RS1	The supplier firm has made adequate capital investments in creating relevant facilities to better serve us (the client).					
RS2	The supplier firm has invested in adequate training for employees to manage the customer engagement relationship.					
RS3	The supplier has invested in Quality Processes to fit into our specific requirements.					
RS4	The supplier has invested in adequate manpower and technology to better serve us.					
3.	**Information/knowledge sharing practices**	**1**	**2**	**3**	**4**	**5**
KS1	Our supplier shares their own business information transparently.					
KS2	Our supplier shares knowledge of their core business processes.					
KS3	Our supplier shares critical knowledge/IP developed by them for our business execution.					

KS4	We and our supplier share information regarding our business environment that affects each other's business.					
4.	**Information security practices**	**1**	**2**	**3**	**4**	**5**
IS1	The supplier firm is conscious about the client's information security needs and protects it through their internal processes.					
IS2	The supplier firm has appropriate infrastructure in place to protect the customer's data from any external or internal attack.					
IS3	The supplier firm has alternative data back-up and disaster recovery centre just in case the primary centre is affected.					
5.	**Trust (status in the engagement)**	**1**	**2**	**3**	**4**	**5**
TS1	The supplier usually keeps its promise(s) regardless of form of promise (verbal or written contract).					
TS2	The supplier practiced sound business ethics and always followed its written code of conduct.					
TS3	The supplier firm was always concerned about the impact of their failure on the client's business and proved dependable.					
TS4	The supplier firm never did anything wrong to the client's business either deliberately or being ignorant about it.					
TS5	We are committed and prepared to enhance the relationship through further and long-term engagement(s).					
TS6	Our supplier is willing to provide assistance to us without exception.					
TS7	Our supplier is sincere at all times.					
TS8	We and our supplier have friendly relations.					
6.	**Minimize uncertain risk (how its handled by your supplier)**	**1**	**2**	**3**	**4**	**5**
RU1	The supplier firm takes care of overall "Uncertainty Risk" factors that can affect the engagement, well ahead of time.					
RU2	The supplier firm tried to mitigate the "Uncertainty Risk" elements by internal controls.					
RU3	The supplier firm is keen in extending their support in joint initiatives (with the client firm) to minimize "Uncertainty Risks" associated with timely and contractual delivery.					
RU4	We and our supplier make decisions for business objectives and directions together to reduce "uncertainty risk".					
RU5	We and our supplier solve most problems together in a collaborative way to reduce probability of uncertainty risk.					
RU6	We and our supplier are willing to comply with each other's requests.					
RU7	We and our supplier are interested in each other's problems and solving them to reduce risks of uncertainties.					

7.	Outsourcing success (overall status)	1	2	3	4	5
OS1	The supplier firm performed very well and as per the SLA and overall expectations.					
OS2	The overall relationship was healthy and mutually beneficial experience.					
OS3	The supplier firm added a lot of business values.					
OS4	The supplier firm contributed towards the business growth through outsourcing initiatives taken by the client firm.					
OS5	We had pleasant and satisfying experience with the supplier firm.					
OS6	We have been able to refocus on our core business.					
OS7	We have enhanced our IT competence.					
OS8	We have increased access to skilled personnel.					
OS9	We have enhanced economies of scale.					
OS10	We have increased control on IT expenses.					
OS11	We have reduced the risk on technological obsolescence.					
OS12	We have increased access to key information and communication technologies.					

SECTION B – RESPONDANT PROFILE

Instruction: Please tick (√) for the answer and fill in the blanks when necessary

8. Gender

☐ Male ☐ Female

9. Job Role

☐ CEO ☐ CIO ☐ COO ☐ CTO

☐ PM/PMO ☐ Finance Head Sourcing Head Sales Head

10. Industry Sectors

☐ Financial Services ☐ Transportation ☐ Retail and ☐ Logistics

☐ Manufacturing ☐ Telecom ☐ Media ☐ Hi-Tech ☐ Other

11. Annual Revenue

☐ Over $10B ☐ $1B - $10B ☐ $500M - $1B ☐ $100M - $500M

☐ $50M - $100M ☐ $20M - $50M ☐ $10M - $20M ☐ Below $10M

12. Countries

☐ United Kingdom ☐ Belgium ☐ France ☐ Netherlands

☐ Germany ☐ Luxembourg ☐ Switzerland ☐ Other

13. Annual IT outsourcing (offshore) spend

☐ Over 500M ☐ $250M - $500M ☐ $100M - $250M ☐ $50M - $100M

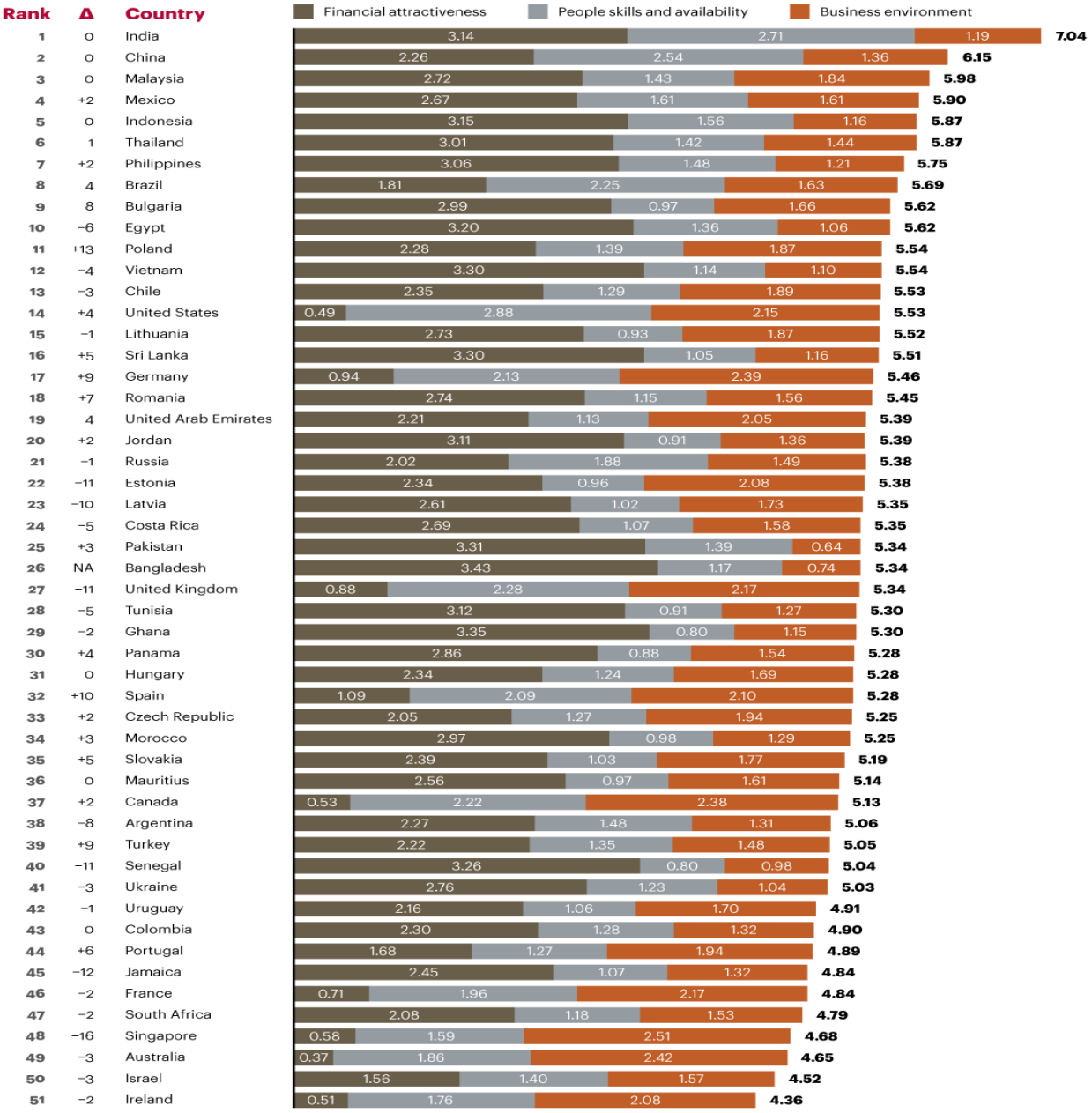
☐ $25M- $50M ☐ $10M - $25M ☐ $1M - $10M ☐ Below $1M

14. Any other point(s) that you feel are necessary to consider or that are important in IT Outsourcing Relationship Management.

Thank you for completing this questionnaire.

Appendix 5: AT Kearney Global Services Location Index 2014

Country rankings



Rank	Δ	Country	Financial attractiveness	People skills and availability	Business environment	
1	0	India	3.14	2.71	1.19	7.04
2	0	China	2.26	2.54	1.36	6.15
3	0	Malaysia	2.72	1.43	1.84	5.98
4	+2	Mexico	2.67	1.61	1.61	5.90
5	0	Indonesia	3.15	1.56	1.16	5.87
6	1	Thailand	3.01	1.42	1.44	5.87
7	+2	Philippines	3.06	1.48	1.21	5.75
8	4	Brazil	1.81	2.25	1.63	5.69
9	8	Bulgaria	2.99	0.97	1.66	5.62
10	−6	Egypt	3.20	1.36	1.06	5.62
11	+13	Poland	2.28	1.39	1.87	5.54
12	−4	Vietnam	3.30	1.14	1.10	5.54
13	−3	Chile	2.35	1.29	1.89	5.53
14	+4	United States	0.49	2.88	2.15	5.53
15	−1	Lithuania	2.73	0.93	1.87	5.52
16	+5	Sri Lanka	3.30	1.05	1.16	5.51
17	+9	Germany	0.94	2.13	2.39	5.46
18	+7	Romania	2.74	1.15	1.56	5.45
19	−4	United Arab Emirates	2.21	1.13	2.05	5.39
20	+2	Jordan	3.11	0.91	1.36	5.39
21	−1	Russia	2.02	1.88	1.49	5.38
22	−11	Estonia	2.34	0.96	2.08	5.38
23	−10	Latvia	2.61	1.02	1.73	5.35
24	−5	Costa Rica	2.69	1.07	1.58	5.35
25	+3	Pakistan	3.31	1.39	0.64	5.34
26	NA	Bangladesh	3.43	1.17	0.74	5.34
27	−11	United Kingdom	0.88	2.28	2.17	5.34
28	−5	Tunisia	3.12	0.91	1.27	5.30
29	−2	Ghana	3.35	0.80	1.15	5.30
30	+4	Panama	2.86	0.88	1.54	5.28
31	0	Hungary	2.34	1.24	1.69	5.28
32	+10	Spain	1.09	2.09	2.10	5.28
33	+2	Czech Republic	2.05	1.27	1.94	5.25
34	+3	Morocco	2.97	0.98	1.29	5.25
35	+5	Slovakia	2.39	1.03	1.77	5.19
36	0	Mauritius	2.56	0.97	1.61	5.14
37	+2	Canada	0.53	2.22	2.38	5.13
38	−8	Argentina	2.27	1.48	1.31	5.06
39	+9	Turkey	2.22	1.35	1.48	5.05
40	−11	Senegal	3.26	0.80	0.98	5.04
41	−3	Ukraine	2.76	1.23	1.04	5.03
42	−1	Uruguay	2.16	1.06	1.70	4.91
43	0	Colombia	2.30	1.28	1.32	4.90
44	+6	Portugal	1.68	1.27	1.94	4.89
45	−12	Jamaica	2.45	1.07	1.32	4.84
46	−2	France	0.71	1.96	2.17	4.84
47	−2	South Africa	2.08	1.18	1.53	4.79
48	−16	Singapore	0.58	1.59	2.51	4.68
49	−3	Australia	0.37	1.86	2.42	4.65
50	−3	Israel	1.56	1.40	1.57	4.52
51	−2	Ireland	0.51	1.76	2.08	4.36

Notes: Δ represents the change in rank since the 2011 index. For France, Germany, the United Kingdom, and the United States, tier 2 locations are assessed.
Source: 2014 A.T. Kearney Global Services Location Index™